

Veterans Health Administration (VHA)
Coronavirus Disease 2019 (COVID-19)
Response Report - Annex B

December 15, 2021

VA



U.S. Department of Veterans Affairs

Veterans Health Administration

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FOREWORD

It has been over a year since the COVID-19 pandemic began. In that time, we have learned a great deal about mounting a national response to a public health crisis.

As the health care branch of the Department of Veterans Affairs (VA), the Veterans Health Administration (VHA) has devoted extensive commitment, energy and resources to treating COVID-19. Our first mission is always to care for Veterans - the people who took an oath and served to ensure our continued freedom.

VHA's mission also includes health services support to communities, states and tribal nations in response to requests for Federal assistance. This aspect of the VA mission is referred to as the "Fourth Mission." In collaboration with local partners, Fourth Mission support during the pandemic has included unprecedented support across the Nation, including deployment of staff to hospitals, State Veterans Homes, nursing homes and vaccination centers. VA Medical Centers accepted hundreds of (non-Veteran) patients, many of whom needed critical care, to relieve community hospitals pressed to their limits.

Throughout the pandemic, Veterans and non-Veterans alike have received medical care from VHA, treatment in VA Medical Centers and life-saving vaccines. I am so proud of the VHA employees—1,606 individuals, as of the issuance of this report—who volunteered to deploy across the country to help those in need. Many of these volunteers participated in more than one response.

I would like to take this opportunity to thank the dedicated VHA professionals who entered hospitals, clinics, research facilities, warehouses and offices day after day, rolled up their sleeves and fought against COVID-19. Without your commitment, wisdom and teamwork, many more lives would have been lost. Your steadfast devotion to care is why we are seeing so much progress against this disease. I am honored to serve alongside such an incredible group of people.

As a learning organization, VHA must assess its successes and challenges critically. Learning from the past is part of our effort to better prepare for the future. For the safety of the Nation, we have a duty to enhance our infrastructure, to prepare and plan for emergencies before they happen. Reports like this one help us to continue our care for Veterans and for the Nation as a whole.

As with everything, we are stronger together.

Sincerely,



Steven L. Lieberman, M.D.

Deputy Under Secretary for Health,

Performing the Delegable Duties of Under Secretary for Health

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Veterans Health Administration (VHA) COVID-19 Pandemic Response - *Fourth Mission*

"In addition to our commitment to Veterans, VA's Fourth Mission allows us to focus on people in need. We are extremely proud of our teammates who stand ready to help in emergencies."

Secretary of Veterans Affairs
Denis McDonough



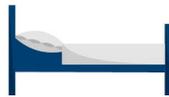
FEMA MISSION ASSIGNMENTS & OTHER INTERAGENCY AGREEMENTS (IAA)

158 responses to FEMA Mission Assignments in support of States and Tribal Nations^{1,A}

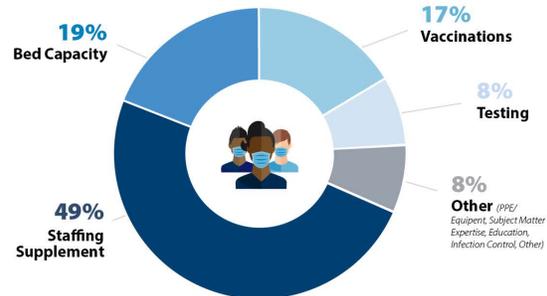


18 IAAs established^B

508 patients admitted to VA Medical Centers to relieve community hospitals^C



FEMA Mission Assignments By Support Type^A



STATE VETERANS HOMES (SVH) & COMMUNITY NURSING HOMES (CNH)



50 SVHs supported^D



900 VHA employees deployed to SVHs^D



128 CNHs supported^D



1,823 SVH Veterans admitted to VA Medical Centers^E



523 VHA employees deployed to CNHs^D

STAFFING SUPPORT



1,454 VHA employees deployed in support of communities, nursing homes, SVHs and Tribal Nations^D



29.2% deployed multiple times in support of the Fourth Mission^D

FOURTH MISSION VACCINATIONS

54,312 individuals from other Government agencies vaccinated^G

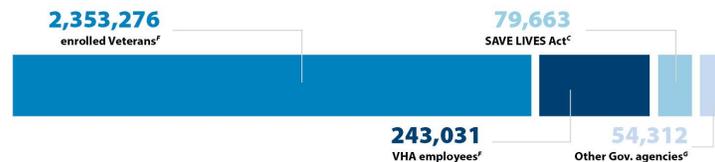


21 deported Veterans vaccinated at the U.S.-Mexico border through interagency outreach^{3,J}



79,663 additional Veterans, family members and caregivers vaccinated through SAVE LIVES Act (SLA)^{2,C}

VHA Vaccinations Breakdown



All figures listed above are cumulative and include data from March 1, 2020 - July 31, 2021, unless otherwise noted

¹FEMA issues mission assignments when the President declares an emergency or major disaster, allowing for deployment, employment and assistance from Federal resources.^H

²The SAVE LIVES Act allowed VA to expand vaccinations to Veterans, their spouses and caregivers by removing previous eligibility requirements.^I

³Relates to September 2021 effort. Some deported Veterans are eligible for VHA services; others are eligible for vaccinations under the SAVE LIVES Act. See Fourth Mission section for more information.

SOURCES:

^AVHA Office of Emergency Management (OEM), "FEMA Mission Assignments Tracker," 10/15/2021, Ref: D330; ^BVHA OEM, "VHA Interagency Agreements Roll Up," 10/19/2021, Ref: D331; ^CVHA, "Daily Leadership Briefing," 8/2/2021, Ref: D20; ^DVHA OEM, response to data call, 10/21/2021, Ref: D342; ^EVHA, "Daily Leadership Briefing," 8/17/2021, Ref: D21; ^FVHA, CDW Database, Vaccination Data, 9/29/2021; ^GVHA, CDW Database, Vaccination Data, 10/13/2021; ^HFEMA, "Mission Assignments," 8/31/2020, <https://www.fema.gov/federal-agencies/mission-assignments>, accessed 10/22/2021, Ref: D332; ^IVHA Office of Public and Intergovernmental Affairs, press release on the SAVE LIVES Act, 3/24/2021, <https://www.va.gov/opa/pressrel/pressrelease.cfm?id=5649>, accessed 10/25/2021, Ref: D333; ^JVHA, response to email, 10/27/2021, Ref: D339.

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EXECUTIVE SUMMARY

This report, Annex B, discusses the period from January 1, 2021, to July 31, 2021. It is the second addendum to VHA's Initial Report, which was released on October 27, 2020. The first addendum, Annex A, covered the period from July 1, 2020, through January 1, 2021.¹

Annex B provides updates on VHA and its continued response to the 2019 novel coronavirus (COVID-19) pandemic. Annex B covers VHA's role in mass vaccinations, clinical operations, mental health initiatives, VHA's Fourth Mission responses and other topics.

Unless otherwise stated, data points relate to the time period from January 1, 2021, to July 31, 2021 (Annex B Period).

Guiding Principles

The VHA Steering Committee for this Annex established the following guiding principles. They are identical to those in Annex A and continue to be followed throughout Annex B:

- Reporting and assessment of the COVID-19 response is essential to VHA as a learning organization and can be applied to agencies outside VHA.
- Accurate documentation of the evolution of the pandemic and essential elements of the response is imperative to informing future VHA readiness and planning for VHA emergency responses. This documentation can also inform readiness and planning at a national level. Readiness and planning will be essential to effective future responses because VHA's role in the Fourth Mission requires close coordination and collaboration with multiple entities, including the Federal Emergency Management Agency (FEMA), Department of Health and Human Services (HHS) and state governments.
- Data, observations and experiences in response to a crisis are all important to identifying issues key to learning from the response.
- Identification of root causes for complex process problems is essential to improvement and often requires a focused analysis by subject matter experts.
- Questions identified in the response for which answers require new knowledge will be approached via research, applying the scientific method.
- A systems-oriented approach to process solutions is important to identifying reliable solutions.

Method

VHA created this report under similar parameters to those in the Initial Report and Annex A. Leadership from VHA provided guidance, insight and information on the state of their work for the Annex B Period. Unlike Annex A, Annex B does not include Veteran Integrated Service Network (VISN)-level summaries but rather focuses on strategic efforts taken by VHA at a national level and executed in the 18 VISNs.

Additional insight comes from publicly available documents created by Federal agencies, including the Food and Drug Administration (FDA) and the Centers for Disease Control and Prevention (CDC). This report also draws from published studies by prominent clinicians on COVID-19 and its impact on patients and the health care workforce.

Vaccination and its Role in VHA COVID-19 Response

During the Annex B Period, the Federal government undertook a national effort to vaccinate all those who were eligible. VHA played a major role in this initiative, vaccinating not only Veterans, but also their caregivers and families. In addition, VHA worked with Federal agencies to vaccinate their workers and—under the Fourth Mission—conducted vaccination events for broader communities.

As of July 31, 2021, VHA had vaccinated more than 2.3 million Veterans Using VHA Services and 243,000 VHA staff. Additionally, nearly 80,000 people were vaccinated as part of the Strengthening and Amplifying Vaccination Efforts to Locally Immunize All Veterans and Every Spouse (SAVE LIVES) Act initiative to vaccinate Veterans who do not use VHA services, families and caregivers.

From January 1, 2021, to July 31, 2021, the United States was administering three vaccines, each of which obtained Emergency Use Authorization (EUA) from FDA. The three vaccines were created by three different pharmaceutical companies, and the vaccinations are typically referred to by company name:

- Pfizer-BioNTech (commonly known as Pfizer)
- Moderna
- Janssen (commonly known as Johnson & Johnson or J&J)

The vaccination of the U.S. population touched almost every part of VHA's COVID-19 efforts. It impacted Fourth Mission because VHA provided staff and supplies for mass vaccination events. It affected elder care because vaccination of elderly Veterans (and their caregivers) was of highest priority. VHA research and innovation

clinicians worked with other Federal agencies on clinical trials, studying the effectiveness of vaccines. VHA focused health equity resources on campaigns to encourage vaccination among people of color (POCs) and rural Veterans.



A Vietnam Veteran receives his first dose of the COVID-19 vaccine. Veterans ranging in age from 33 to 93 attended a vaccination event in Montana during the Annex B Period. (Photo credit: VHA)

At the end of the Annex B Period, VA implemented a vaccine mandate for all VA employees in health care roles. VA was the first Federal agency and one of the first health care systems to issue such a mandate. Soon afterwards, the Federal government announced a similar policy for the entire Federal workforce.

Initially, the mass vaccination efforts had a profound impact on the rate of COVID-19 infection around the country. The vaccines worked well against the Alpha variant, which was the predominant strain of COVID-19 early in the vaccination process. But in early summer, a new variant became predominant in the United States—the Delta variant.

The vaccines had an impact on the Delta variant. Research indicated that those who were vaccinated were less likely to contract the virus and far less likely to experience severe symptoms or require hospitalization. Vaccinated individuals were still able to catch and spread the Delta variant. Although some post-vaccination cases (often

called “breakthrough cases”) were expected, the Delta strain greatly increased the rate of post-vaccination infection, compared with previous strains. In June and July 2021, the United States experienced a surge of COVID-19 cases, the majority of which were caused by the Delta variant.

Updates to Strategic Challenges and Actions in the Elements of the Response

The Annex B Period began in January 2021 as the Nation was near the peak of its largest wave of the pandemic. National daily totals for new cases, hospital admissions and deaths reached the highest points of the pandemic thus far. The spread of COVID-19, hospitalizations and deaths declined through spring 2021 and reached a low point in June 2021. As that decline was occurring, variants of the virus responsible for COVID-19 became more prominent. First, the Alpha variant and then the Delta variant became the dominant form in the United States. As this period was ending in late July 2021, a wave of accelerated spread of the Delta variant was in progress.

Vaccination was a major element of VHA’s response and its foremost challenge during the Annex B Period, but the study and treatment of the disease itself were also major components of VHA’s response.

From January 1, 2021, to July 31, 2021, VHA conducted extensive COVID-19 testing, supported and protected elderly Veterans, worked to increase health equity, improved mental health care for Veterans, increased surgical procedures (many of which had been delayed by COVID-19), enhanced telehealth services to reach home-based and rural Veterans, built webinars and clinical support for health ethics, published more than 300 studies on COVID-19 and vaccinated 54,312 Federal employees in addition to the VA workforce.

This effort required the support and hard work of all VHA personnel and also bolstered VHA’s relationships with other agencies. Through high-level interagency committees, clinical trials, mass vaccination events and preparedness planning, the dedicated members of multiple Federal agencies came together to help people through this emergency and apply strategies to enhance future response.

Updates on specific areas of VHA’s work are included as follows.

Testing

Since the start of the pandemic, VHA has tested over one million Veterans for COVID-19. Of the 1,379,714 Veterans tested for the virus, 256,333 (18.6%) individuals tested positive.

Testing was used among all VHA staff when circumstances pointed to an elevated probability of infection. In April 2021, VHA provided population-based testing guidance for Veterans and workers in Community Living Centers (CLCs) and Spinal Cord Injury and Disorder (SCI/D) units, both of which house individuals who are at higher risk if infected with COVID-19.

During the Annex B Period, supplies for testing became more readily available, which made testing easier. VHA conducts three kinds of tests to detect COVID-19: polymerase chain reaction (PCR), antigen and antibody. At its height, VHA was processing 70,000-90,000 tests per week.

Elder Care

Caring for elderly Veterans is one of VA's most important responsibilities. VHA runs 100 CLCs throughout the country and provides support to 158 State Veteran Homes (SVHs), which are owned and operated by the states.

The elderly are particularly vulnerable to COVID-19. Old age is one of the major contributing factors in hospitalization and death after infection with this disease. VHA instituted policies designed to limit the exposure of CLC residents to COVID-19. Additionally, VHA frequently tested all employees in CLCs, regardless of their vaccination status.

VHA also coordinated increased telehealth usage for elderly Veterans at home, working closely with caregivers to maintain health care while limiting risk. Telehealth posed challenges for some elderly Veterans who did not have internet access. Some also struggled with newer technology.

Health Equity

Disparities in health care continue to be an area of concern for VHA. The Office of Health Equity (OHE) is focused on bringing equitable care to all Veterans. OHE programs include supports for Veterans who reside in rural communities; Veterans

who are POCs; lesbian, gay, bisexual, transgender and related identities (LGBTQ+) Veterans; and others.

Anticipating hesitancy around the COVID-19 vaccine, VHA tailored messaging and outreach to POC Veterans, including working with community leaders and conducting one-on-one phone calls. From January 1, 2021, to July 31, 2021, POC Veterans were vaccinated by VHA at higher rates than their White counterparts; however, this does not include Veterans who were vaccinated outside VHA and did not report their vaccination to VHA.

Campaigns were also launched to encourage rural Veterans to be vaccinated. Mobile units were deployed to set up vaccination clinics for remote regions. OHE worked directly with the Indian Health Services to provide vaccinations to Native Americans residing in rural areas.

In addition to vaccination supports and campaigns, VHA has been working to expand its outreach to LGBTQ+ Veterans.

Mental Health

Throughout the pandemic, VHA continued its suicide prevention strategy. This required adaptive actions, as described in the "2021 National Veteran Suicide Prevention Annual Report." One such adaptation was the use of predictive analytic tools specific to Veterans with COVID-19. VHA monitored High Risk Flags among Veterans during this period, using the flags to identify Veterans for outreach. Response actions were tailored to the circumstance of the individual Veteran.

VHA mental health providers used a tool called Recovery Engagement and Coordination for Health—Veterans Enhanced Treatment (REACH VET) to monitor for indicators of suicide risk among Veterans under their care. VHA providers used the risk indications to guide outreach to individual Veterans.

VHA mental health providers continued to use virtual health tools during this phase of the pandemic, building on the experience garnered during previous waves. VHA prioritized Veteran access to same-day mental health services throughout the response—a process that included embedding behavioral health providers in primary care clinics. VHA accumulated experience with group therapy via telehealth during the pandemic and has a sustained interest in this use of telehealth based on this experience.

VHA is also enhancing its accessibility to Veterans in need. In June 2022, the Veteran Crisis Line (VCL) will change from a 10-digit number (1-800-273-8255) to a 3-digit number (988). The simpler phone number is expected to help Veterans reach the help they need faster. Implementation efforts include adding 460 VCL staff positions, expanding efforts to modernize technology, developing a targeted communications approach and completing process improvement initiatives.

Clinical Operations

Clinical operations from January 1, 2021, to July 31, 2021, included an effort to address deferred care, particularly mental health and dentistry. Operations also increased during the Annex B Period but did not reach pre-pandemic levels. One important aspect of in-person care that remained significantly below pre-pandemic levels during this period was mental health residential rehabilitation treatment.

Over the course of the pandemic, telehealth became an area of particular importance for VHA—not only because it allowed patients to obtain care when facilities were closed to visitors, but because it allowed clinicians to work with patients who would otherwise be unable or reluctant to come to an office or center for health care. As in-person care approached pre-pandemic levels during this period, the use of telehealth remained significantly above pre-pandemic volume.

The My HealthVet online program allowed VHA to process over 14 million online prescription refills—an increase of 1.8 million compared with the same time period in 2020.

Patient Services Workforce

COVID-19 has placed significant and sustained demand on the VHA workforce. Although the situation has improved slightly since 2020, 19% of frontline workers reported moderate burnout in 2021—an increase of 4% since 2019. The largest change was in psychologists (20%-26%) and human resources (19%-25%). In an effort to better understand workforce burnout, VHA established the Reducing Employee Burnout and Optimizing Organizational Thriving (REBOOT) task force.

VHA also experienced an increase in nurse losses in 2021, compared with 2019 and 2020. A high percentage of these losses were voluntary (retirements and resignations). VHA is dedicating resources to determining the best way to motivate and retain its patient services workforce. Short sabbaticals may be one solution.

VHA is also working to create a more flexible workspace for its workforce, allowing nurses and other clinicians the opportunity to serve in a diverse array of health care roles as an alternative to leaving the field completely. This will allow VHA to retain knowledge and expertise from its workforce and reduce employee losses.

Ethics

Scarce resources at the start of the pandemic led to many questions about the ethical use of available medical supplies. Later in the pandemic, clinicians had questions about vaccine distribution planning, face masks and disclosure of vaccination status. In each case, these questions were raised in consultation with the National Center for Ethics in Health Care (NCEHC), the VHA office that supports VHA by providing resources and policies related to ethics in health care.

Throughout the pandemic, VHA's health care ethics remained focused on providing respectful, fair, transparent, efficient and equitable decision-making tools. Public health emergencies like the pandemic present unique challenges for clinicians. A strong foundation of ethics policies reduced the burden on staff, who could follow guidance rather than make individual decisions each time an ethical question was raised.

VHA's documents on health care ethics contain information about how to manage scarce resources and other ethical challenges. In addition, NCEHC provided webinars and early-to-digest resources for VHA clinicians to make it easier to find the answers they seek.

Research and Innovation

During the Annex B reporting period, VHA launched more than 50 research studies related to COVID-19 and published more than 300 articles on the subject. Vaccine clinical trials, therapeutic drug clinical trials, non-interventional studies and genomic sequencing were all part of VHA's COVID-19 research and innovation initiatives during the Annex B reporting period. VHA researchers also published the first comprehensive study of the potential impacts of long COVID. (The study was published in *Nature* in April 2021).

VHA provided managed access to VA health data for external clinical research via the COVID-19 Shared Data Resource program, expanding the volume of research into the health impacts of COVID-19 infection relevant to Veterans.

VHA leaders reported challenges in staffing for research and innovation projects. Retaining experts is difficult because of high demand in academic centers, the private sector and government health agencies.

Fourth Mission

VHA's Fourth Mission allows VHA to provide support to the broader Nation in times of emergency. Fourth Mission activities are based on assignments from FEMA. Since the start of the pandemic, VHA has carried out 158 FEMA Mission Assignments, including 43 assignments that began during the Annex B Period. FEMA Mission Assignments allow VHA personnel to assist where they are needed most. Volunteers are deployed to address emergencies based on FEMA direction. In the past, VHA has responded to hurricanes, tornadoes and terrorist attacks.

Early in the pandemic, Fourth Mission work focused on supporting overwhelmed health care systems, including hospitals and SVHs. More recent assignments have focused on vaccination events, including vaccinating many Federal agency employees.

Requests for support decreased in the spring as COVID-19 rates decreased, but leaders reported an uptick toward the end of the Annex B Period, in line with the rise of the Delta variant.

Preparedness

VHA has made progress improving preparedness. Four permanent Regional Readiness Centers (RRCs) were established, which will hold medical supplies and goods for emergency use.

RRCs were designed to act as a failsafe in future supply chain disruptions. The four permanent RRCs are operational and supported via agreements with the Defense Logistics Agency. Work is in progress to define the precise roles of the RRCs, which will provide supply and equipment support to health care operations in the network while maintaining certain supplies in rotating reserve for emergency response. The precise long-term roles of the RRCs for preparedness and day-to-day health care operations are in development.

VHA is continuing to expand its preparedness planning. The organization is in the process of implementing a new ordering and warehouse management system, LogiCole, which will support all medical logistical functions.

VHA has also established a Clinical Deployment Team program, which will be activated in public health emergencies. Highly trained clinicians will be deployed to support primary care, med-surg, emergency rooms and intensive care units.

Updates to Conclusions and Recommendations

In addition to providing details about VHA's efforts during the Annex B Period, VHA has identified lessons that can help VHA grow. The conclusions and recommendations below are the result of efforts to improve VHA based on the experiences of this period.

Conclusions & Recommendations

VHA sustained a well-coordinated response across its 18 VISNs while playing a strong role in the Federal response and contributing significantly to national strategies to enhance preparedness. The mass vaccination campaign was planned and executed with fidelity, including the provision of vaccinations to a significant number of the U.S. population.

Testing

Finding: VHA effectively employed and sustained evidence-based guidelines for the use of COVID-19 testing tools for diagnosis, screening and monitoring.

Finding: VHA generated significant contributions to national pandemic surveillance and preparedness through expanding genomic sequencing and participating in the national task force on pandemic testing.

Research and Innovation

Finding: VHA's affiliations, capacity for clinical research and data management continued to provide major contributions to the evolution of knowledge essential to the national COVID-19 response.

Finding: VHA's process for providing external researchers with access to updated clinical data is contributing to knowledge about COVID-19 relevant to the health of Veterans and important to scientific knowledge of the disease.

Clinical Services

Finding: VHA increased its in-person care between pandemic waves while also sustaining virtual care tools, based on the successful use and acceptance by Veterans.

Finding: VHA initiated actions to improve the capacity of the Clinical Contact Centers (CCCs) to meet local surges in demand through networked operations, enabling distribution of calls among centers for timely response. The initiative is also making Veteran health records accessible to CCC staff via the Computerized Patient Record System (CPRS) to inform the interactions with Veterans and caregivers.

Finding: Admissions and daily census for residential rehabilitation treatment programs for mental health and substance abuse conditions lagged behind pre-pandemic levels throughout the Annex B Period.

Recommendation: Assess the factors contributing to the diminished use of Mental Health Residential Rehabilitation Treatment Programs, compared with pre-pandemic rates. Identify Veteran needs and match needs with access.

Patient Services Workforce

Finding: The sustained pandemic response has imposed stress on the workforce, most evident in the nursing workforce.

Recommendation: Develop a comprehensive strategy with metrics and actions to monitor and mitigate stress on the health care workforce, facilitate wellness and enhance retention.

Fourth Mission

Finding: VHA effectively adapted its Fourth Mission response to the national mass vaccination campaign and successfully delivered vaccines to over 80,000 people in communities and in other Federal agencies, including remote locations in the United States.

Health Equity

Finding: VHA outreach to minority groups of Veterans yielded higher levels of vaccine acceptance among these groups than projected. Low vaccination rates among rural Veterans suggest low vaccine acceptance within this group.

Recommendation: Develop a strategy to improve vaccine acceptance among rural Veterans, informed by a study of factors contributing to hesitancy or resistance to vaccination.

Elder Care

Finding: VHA has demonstrated that telehealth usage for care to elderly Veterans is beneficial and feasible with the right technical support.

Finding: Continued research to identify effective preventive and post-exposure therapeutics will be an important augmentation to vaccination in mitigating the impact of an infectious disease outbreak on elderly Veterans.

Recommendation: Expand research to identify effective COVID-19 prevention and intervention measures for elderly Veterans residing at home or in long-term-care facilities.

Finding: VHA processes for protecting CLC residents during the pandemic have succeeded in keeping rates of CLC-onset COVID-19 at the same rate as for the population of enrolled Veterans over 65.

Recommendation: Develop an information system to facilitate monitoring of State Veterans Homes for indicators of infectious disease risk, combining periodic assessment results with epidemiologic community data.

Vaccinations

Finding: VHA planned and executed a successful mass vaccination campaign that vaccinated over 2.5 million people during this period while sustaining all other aspects of the pandemic response and Veteran health services.

Finding: The pharmacy system used for tracking vaccine inventory proved effective, but sustaining accurate data was laborious and required high levels of manual data entry.

Recommendation: Develop or procure a system capable of VHA-wide monitoring and managing vaccine inventory via automated processes.

Finding: Planning for the mass vaccination campaign was highly effective but did not anticipate the complexity of interagency support.

Recommendation: Incorporate interagency support into planning templates for mass vaccinations, addressing the logistical, scheduling, transportation and data management aspects of this support.

Finding: The inability to access state vaccination data left VHA with an incomplete picture of the vaccination status of enrolled Veterans.

Recommendation: Pursue legislative action to enable VA to obtain vaccination data on Veterans from state vaccination data.

Preparedness

Finding: VHA established the four permanent RRCs in partnership with the Defense Logistics Agency (DLA) although the long-term roles of the RRCs are still in development.

Recommendation: Define the objectives and permanent roles of Regional Readiness Centers in support of preparedness, Fourth Mission and day-to-day health care operations

Finding: The volunteer deployment system for VHA continues to show evidence of stress from the prolonged national response.

Mental Health

Finding: VHA successfully adapted its processes to sustain access to care while mitigating the risk of Veteran exposure to COVID-19. This adaptation included incorporating factors related to COVID-19 infection into the monitoring of risk indicators for suicide.

Finding: VHA successfully employed telehealth to provide care during the pandemic. Positive reports regarding telehealth usage in group therapy will benefit from studies correlating this approach with outcomes.

Ethics

Finding: Early and sustained engagement by the NCEHC with its network representatives provided ready consultative support and guidelines that mitigated individual moral distress during the response.

Acknowledgements

The COVID-19 Response Reporting Team would like to thank the VA Secretary and Deputy Secretary for their support for the team's third COVID-19 report, Annex B. The completion of this document was made possible with support and guidance from Dr. Carolyn Clancy and Mr. James Tranoris as the Steering Group, and the personal contributions from the Acting Under Secretary for Health, as well as VHA senior leaders, VISN Directors and VHA personnel. As the pandemic continues, the team appreciates VA's ongoing work to protect America's Veterans.

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OVERVIEW

Introduction

In March 2020, the United States declared a national emergency in response to the novel coronavirus (COVID-19). Since that time, VHA has continued to provide health care to Veterans while also supporting the Nation through its Fourth Mission.

VA's Fourth Mission allows VHA to provide healthcare support for Veterans and non-Veterans during times of emergency.

https://www.va.gov/about_va

For the purpose of continuous learning and building a foundation to address potential future public health emergencies, VHA commissioned a series of independent reports to assess lessons learned during the COVID-19 pandemic. The Initial Report covered the beginning of the pandemic through June 30, 2020; Annex A reported on July 1, 2020, to January 1, 2021; this Annex B reports on January 1, 2021, to July 31, 2021.

These reports provide findings derived from VHA's daily operational meetings with staff, leaders and subject matter experts (SMEs); qualitative and quantitative information from interviews with VHA leaders; data calls to VHA offices; and documents from CDC, FDA, the White House and national and medical news sources. Each report has been made available publicly to increase transparency, chronicle VHA's response through the ongoing pandemic and serve as lessons learned for the remainder of the response and future emergencies.

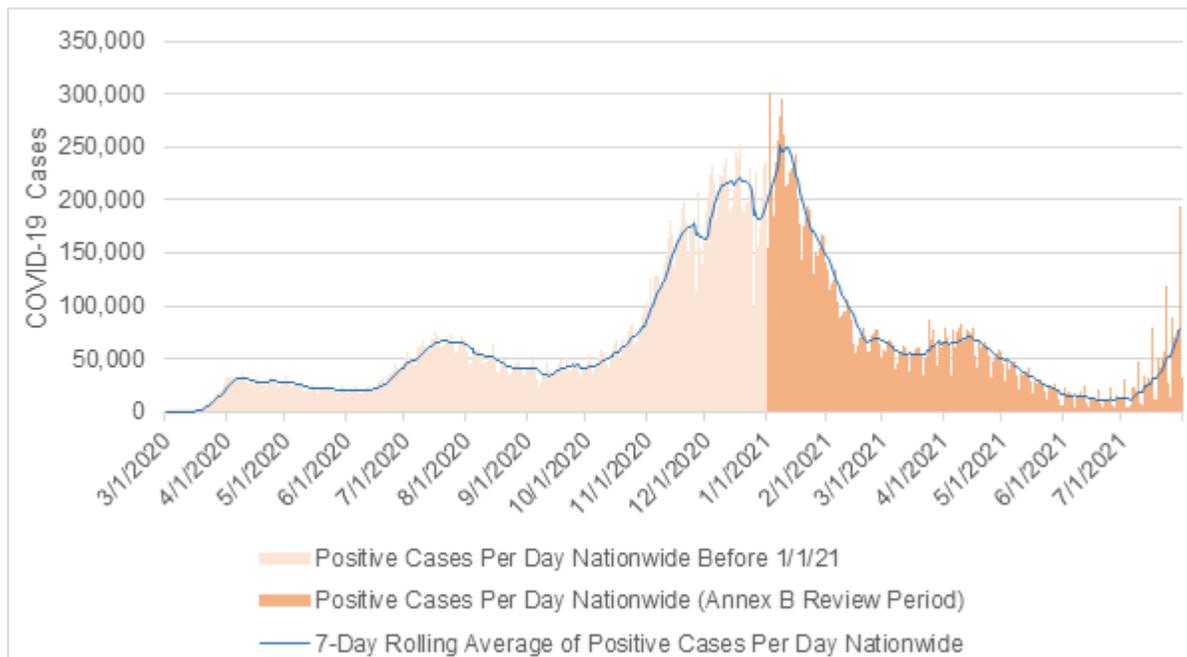
Progression of the Pandemic

The Annex B Period (January 1, 2021, to July 31, 2021) started in the middle of a COVID-19 surge that was larger than previous waves. This third wave began in mid-November 2020 and did not decline until early February 2021.² At its height, on January 13, 2021, there were 4,169 deaths associated with COVID-19 in a single day, according to CDC data gathered from the states.³ During this wave, daily death rates peaked approximately 80% above the previous high point (in spring 2020). Daily cases peaked approximately 220% above the previous high point (summer 2020).⁴

During the Annex B Period, 14,724,123 people in the United States were diagnosed with COVID-19, and 259,193 died, bringing the cumulative totals to 34,978,283 U.S.

cases of COVID-19 and 613,327 deaths as of July 31, 2021.⁵ These are highlighted in **Figure 2.1** below.

Figure 2.1: U.S. COVID-19 Cases Reported per Day (March 1, 2020 – July 31, 2021)



Source: Johns Hopkins University, COVID-19 GitHub Repository, accessed 8/19/2021.

Notes: COVID-19 reported positive cases represent general community confirmed positive COVID-19 tests. Nationwide total case estimates were aggregated by individual state reported cases from March 1, 2020, to July 31, 2021.

January 2021 saw a slight decline in the number of cases across the country; however, community prevalence continued to vary by region. CDC considers transmission to be high when there are 100 or more new cases per 100,000 people over 7 days.⁶ During January 2021, while the third wave still surged in the United States, every state but Hawaii had high transmission.⁷

The largest outbreaks were seen in the following states: Alaska, Arizona, Colorado, Georgia, Kentucky, Michigan, North Carolina, Oklahoma, Pennsylvania, Texas, Virginia and Wyoming.⁸ After January 2021, there was a significant decrease in cases throughout the United States. This decrease coincided with the increase in vaccinations, which had begun in mid-December 2020 for priority groups and were available to everyone 16 years or older in the United States as of April 19, 2021.⁹

Outbreaks occurred in individual states rather than regionally as the numbers declined steadily until June 2021 when there were a comparatively low 411,222

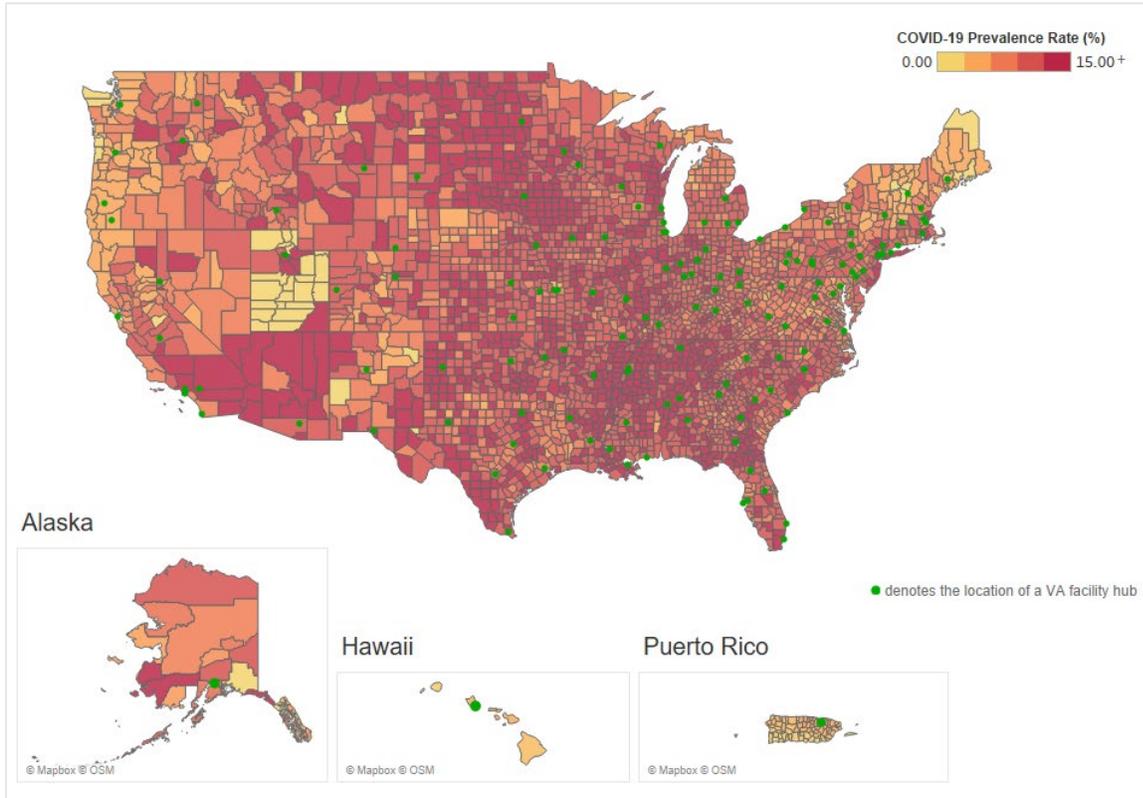
confirmed cases.¹⁰ During these months, the main outbreaks moved from Texas (February), to Missouri (March), to Michigan (April), to Nebraska (May) and back to Texas in June.¹¹

This major decline in U.S. cases ended in July 2021 when cases began to increase once more.¹² The Delta variant had spread and became the predominant variant in the United States in June.¹³ The Delta variant was a new, more contagious form of the COVID-19 virus.¹⁴ The number of U.S. cases more than tripled from June to July 2021, rising back up to over one million with outbreaks in Alaska, Arkansas, California, Florida, Georgia, Louisiana, Mississippi, Missouri and Texas.¹⁵

At the beginning of July 2021, only three states—Arkansas, Missouri and Nevada—were at high levels of transmission.¹⁶ By the end of July, 26 states were at high levels of transmission.¹⁷ Outbreaks became more regionally focused in 2021, compared to more localized outbreaks in 2020, as shown in **Figure 2.2**.

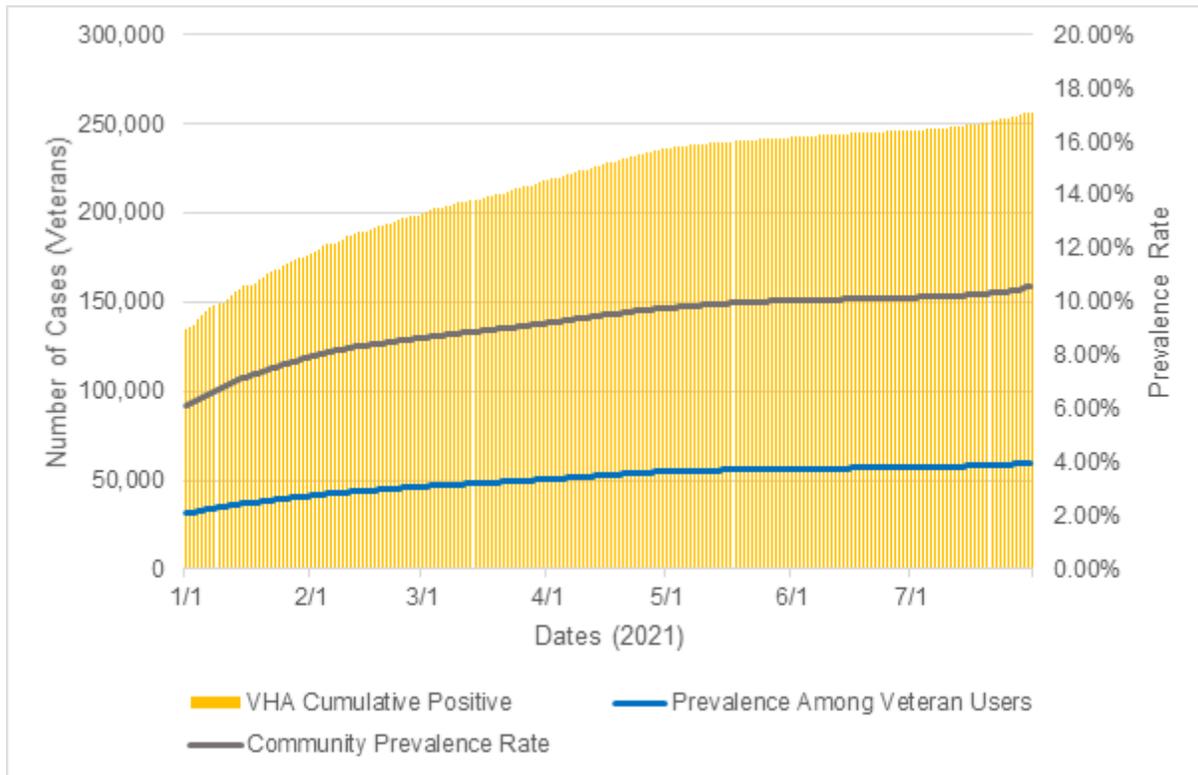
The cumulative COVID-19 prevalence of confirmed cases exceeded 10%, as shown in **Figure 2.3**. The cumulative prevalence of confirmed cases among Veterans Using VHA Services was lower, at approximately 4%, for those tested by VHA or who reported a COVID-19 diagnosis to VHA. These cases do not include all cases confirmed through testing outside VHA.

Figure 2.2: Prevalence of Confirmed COVID-19 Cases Among the General Population in U.S. Counties (March 1, 2020 – July 31, 2021)



Source: Johns Hopkins University, COVID-19 Case Data; U.S. Census 2019 Estimate; VA, VA facility hub locations.
 Note: Data as of July 31, 2021. The counties shown on this graphic are based on the alignment of County FIPS codes to VA facility hub locations as per “VISN Markets, Submarkets, Sectors and Counties by Geographic Location”, VA, last updated on 7/31/2021. Not shown on map: Philippines, Guam, American Samoa, U.S. Virgin Islands.

Figure 2.3: COVID-19 Confirmed Case Statistics, Veterans Using VHA Services Compared with Community Prevalence (January 1, 2021 – July 31, 2021)



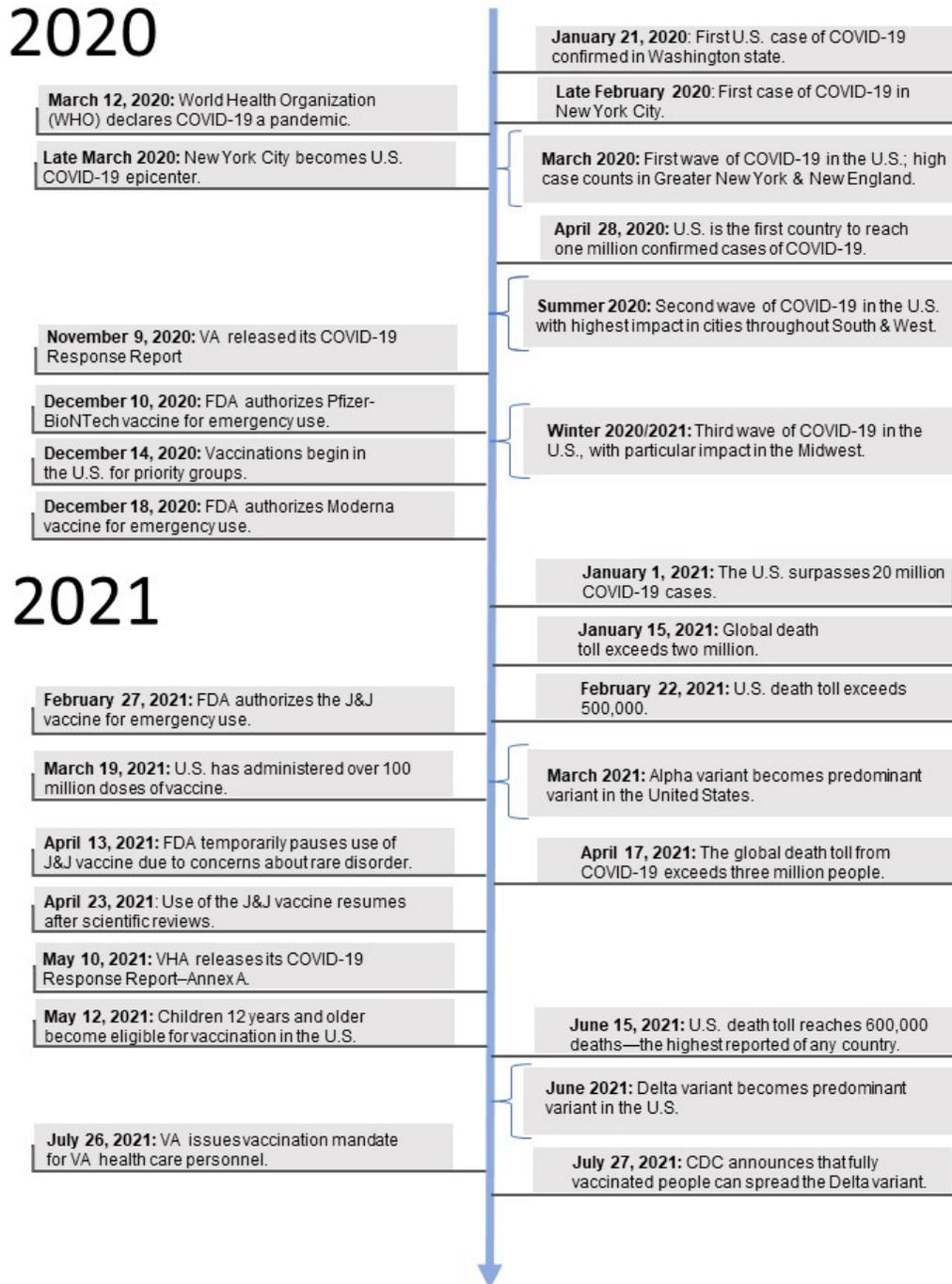
Source: HOC, NST Dataset, accessed 8/30/2021; Johns Hopkins University, COVID-19 U.S. Cases Data, accessed 8/19/2021; ARC, VHA Population Veterans Using VHA Services Data, 2/2/2021.

Note: Veterans Using VHA Services are Veterans who used VHA services from April 1, 2019, to September 30, 2020. Veterans who died prior to February 1, 2020, were excluded from the Veterans Using VHA Services definition for this report in order to quantify Veterans at risk for COVID-19. Veteran confirmed positives figures exclude Veteran-Employees.

Annex B Timeline

Figure 2.4 is a timeline of key events and actions from the beginning of the pandemic through July 31, 2021.

Figure 2.4: Events Related to COVID-19 (March 1, 2020 – July 31, 2021)¹⁸



Summary of Adjustments to VHA Approach

During the Annex B Period, the primary adjustments to VHA's COVID-19 response included the following:

- Adjusted response to focus on vaccination administration, including vaccination of Veterans and VA employees and preparation to implement vaccination requirements for VA health care staff
- Made continuous updates to treatment guidelines for COVID-19 based on the evolving knowledge from research and clinical observations
- Joined the national effort to track the evolution of COVID-19 variants in the United States through participation in national genomic sequencing
- Evolved testing strategies for COVID-19 for effectiveness in surveillance and diagnosis
- Resumed health services beyond COVID-19 with emphasis on Veteran access to resume deferred care
- Adapted the Fourth Mission response in support of the national vaccination campaign

As part of its effort to vaccinate Veterans, VHA focused on the following:

- Followed the guidelines recommended by CDC to roll out vaccinations by priority group and opened up vaccination to Veterans of all ages across its networks by April 2021
- Held mass vaccination events, managed allocation of the vaccines, distributed communications to encourage vaccination and provide information, and conducted target outreach to underserved populations
- Planned for execution of the Secretary of VA's policy directing vaccination for VA health care workers

VHA continuously advanced evidence-based care in accordance with the evolving clinical research for COVID-19 to its treatments, as shown in the following examples:

- Followed CDC's emerging guidance and new research to continuously update and improve its operations for COVID-19 care
- Expanded use of early administration of monoclonal antibody therapy¹⁹

VHA began using genomic sequencing to track COVID-19 variants such as the Delta variant, including the following:

- Launched genomic sequencing capabilities at five additional laboratories²⁰
- Issued guidance on the availability of genomic surveillance testing for VHA²¹

VHA evolved testing capabilities and guidance, such as the following:

- Increased the availability of testing supplies to address short-term surges and the availability of antigen testing²²
- Provided guidance to implement population-based testing for Veterans, CLC and SCI/D System of Care employees and patients covered by the Fourth Mission²³

VHA continued actions within its Modernization Plan, updated through lessons learned from the early months of the pandemic:

- Focused on access to care, especially for mental health services and deferred care²⁴
- Expanded the range of clinical services using telehealth as standard tools for provision of health services to enhance access to care after the pandemic²⁵
- Established strategy for continued expansion of the array of virtual care tools to be integrated with the new VA electronic health record
- Continued its implementation actions in pursuit of high reliability within the three pillars: leadership commitment, safety culture and continuous process improvement

During this time period, VA's Fourth Mission responsibilities shifted to focus on vaccination to provide protection from COVID-19:

- Supported mass vaccination events and delivered vaccines to rural communities to increase accessibility
- Provided vaccinations to Veterans' caregivers, increasing protection to Veterans and the Nation
- Engaged with other Federal agencies to provide vaccinations to enhance the safety of the greater Federal workforce

Updated Epidemiological Data for VHA Populations and Staff

From the beginning of the pandemic through July 31, 2021, of the 6,458,171 Veterans Using VHA Services, 256,333 tested positive for COVID-19, and 12,830 died from the virus.²⁶ In addition, 21,719 VA employees tested positive for COVID-19, and 160 died.²⁷ **Table 2.1** provides more information on COVID-19 cases and deaths.

Table 2.1: COVID-19 Summary Statistics (March 1, 2020 – July 31, 2021)

Category	Count
Veterans Using VHA Services	6,458,171
Veteran COVID-19 Cases	256,333
Veteran COVID-19 Inpatients	39,299
Veteran Deaths (COVID-19-associated)	12,830
VISN Employees	382,666
Employee COVID-19 Cases	21,719
Employee Deaths (COVID-19-associated)	160

Source: ARC, Veterans Using VHA Services, 2/2/2021; HOC, NST Dataset, accessed 8/30/2021; HOC, Employee Deaths, 9/1/2021; EIC, VSSC, COVID Dashboard, Employee Population, 9/20/2021.

Note: Veterans Using VHA Services are Veterans who used VHA services between April 1, 2019, and September 30, 2020. Veterans Using VHA Services is based on data from FY2020 as VHA does not plan to update the population number until after completion of the FY2021, which is after the Annex B Period. Veterans who died prior to February 1, 2020 were excluded from the Veterans Using VHA Services definition. Veteran confirmed positives and deaths figures exclude Veteran-Employees. Veteran COVID-19 cases include VHA conducted tests and Veteran self-reported test results to the VHA. "COVID-19 associated Veteran Deaths" refers to Veterans Using VHA Services who died within 30 days of an established lifetime-first COVID-19 case. For VHA determined cases, this means Veterans Using VHA Services who died within 30 days of their first positive COVID-19 test. For cases determined outside VHA, this means Veterans Using VHA Services who died within 30 days of the date of their first COVID-19 laboratory-confirmed diagnosis was reported to VHA.

Table 2.2 shows a breakdown of confirmed COVID-19 cases for Veterans Using VHA Services by gender. Enrolled female and male Veterans were impacted by the virus at similarly proportional rates.

Table 2.2: Number of Veterans Using VHA Services with COVID-19 Diagnosis, by Age and Gender (March 1, 2020 – July 31, 2021)

Age Groups	Female	% of Female Veterans	Male	% of Male Veterans	Total by Age Group	% of Veterans Using VHA Services
34 and under	4,377	4.0%	16,014	3.5%	20,391	3.6%
35 - 44	6,391	4.9%	24,168	4.4%	30,559	4.5%
45 - 54	6,143	5.0%	30,347	4.7%	36,490	4.7%
55 - 64	6,224	4.5%	41,903	4.4%	48,127	4.4%
65 - 74	2,786	3.9%	66,106	3.6%	68,892	3.7%
75 - 84	566	3.3%	35,358	3.5%	35,924	3.5%
85 and over	296	4.2%	15,654	3.7%	15,950	3.7%
Total by Gender	26,783	4.5%	229,550	3.9%	256,333	4.0%

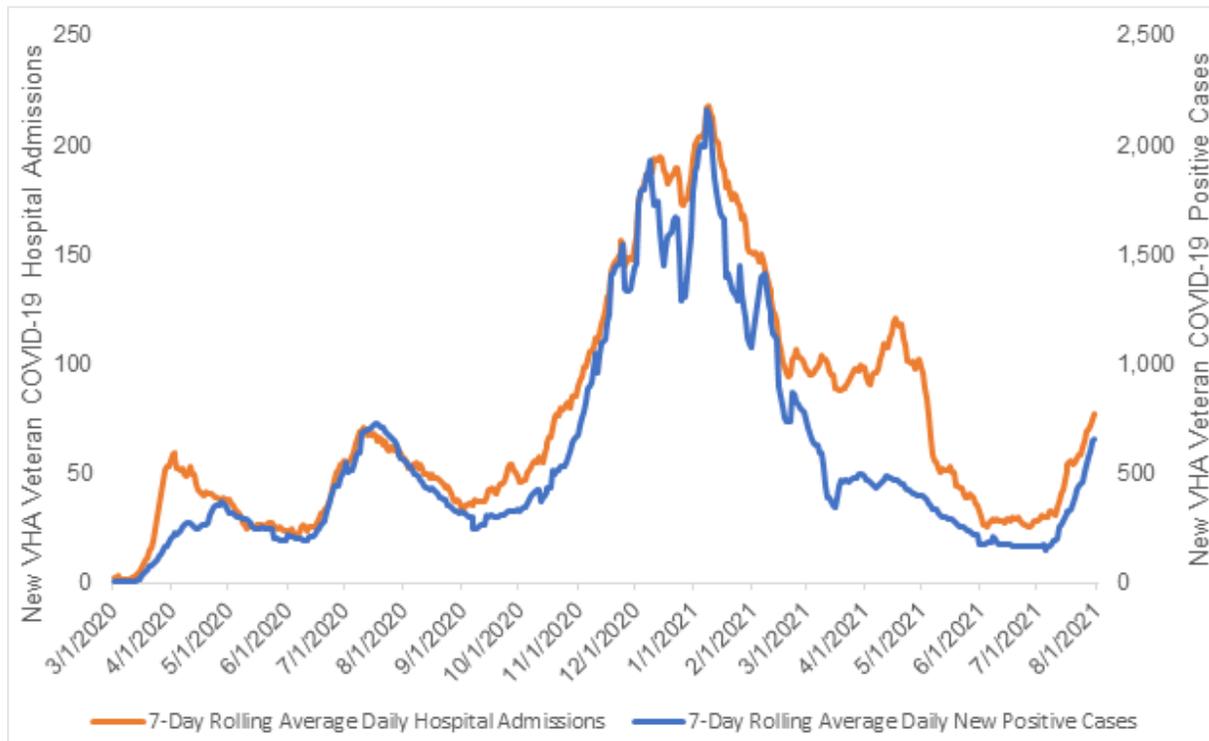
Source: Veterans Using VHA Services data provided by ARC, VHA, on 2/2/2021; VHA, NST Database, accessed 8/30/2021 ARC, Veterans Using VHA Services, 2/2/2021; HOC, NST Dataset, 8/30/2021.

Note: Veterans Using VHA Services are Veterans who used VHA services from 4/1/2019 to 9/30/2020. Veterans who died prior to 2/1/2020, were excluded from the Veterans Using VHA Services definition. The figures for Veteran confirmed positives and deaths exclude Veteran-Employees. Totals may not add due to rounding.

Figure 2.5 shows the seven-day rolling average for hospital admissions and positive COVID-19 cases among Veterans Using VHA Services. Cases and hospitalizations generally tracked throughout most of the pandemic, as they did in the general U.S. population.

For more information on the U.S. population’s COVID-19 hospital admissions and positive case rates, see the U.S. Epidemiology of COVID-19 section of this report.

Figure 2.5: Veterans Using VHA Services 7-Day Rolling Average COVID-19 Hospital Admissions and New Cases (March 1, 2020 – July 31, 2021)



Source: VHA, NST Database, accessed 8/30/2021.

Note: Veterans Using VHA Services are Veterans who used VHA services from April 1, 2019, to September 30, 2020. Veterans who died prior to February 1, 2020, were excluded from the Veterans Using VHA Services definition for this report in order to quantify Veterans at risk for COVID-19. Veteran confirmed positives figures exclude Veteran-Employees. Veteran COVID-19 cases include VHA conducted tests and Veteran self-reported test results to the VHA. Veterans testing positive for COVID-19 and were admitted to a VA hospital by July 31, 2021, are included.

Table 2.3 provides data on the case fatality rate of Veterans Using VHA Services after a diagnosis of COVID-19. The overall case fatality rate was approximately 5%. Male Veterans had a higher case fatality rate (5.5%) than female Veterans (1.0%), including a higher case fatality rate in each age category for Veterans Using VHA Services above the age of 34.

Table 2.3: Case Fatality Rate Among Veterans Using VHA Services Following Diagnosis of COVID-19, by Age Group and Gender (March 1, 2020 – July 31, 2021)

Age Groups	Female Veterans		Male Veterans		Veterans Using VHA	
	Deaths	Case	Deaths	Case	Deaths	Case Fatality Rate
34 and under	3	0.1%	13	0.1%	16	0.1%
35 - 44	1	0.0%	76	0.3%	77	0.3%
45 - 54	20	0.3%	202	0.7%	222	0.6%
55 - 64	68	1.1%	924	2.2%	992	2.1%
65 - 74	72	2.6%	4,136	6.3%	4,208	6.1%
75 - 84	42	7.4%	3,692	10.4%	3,734	10.4%
85 and over	51	17.2%	3,530	22.6%	3,581	22.5%
Total by Gender	257	1.0%	12,573	5.5%	12,830	5.0%

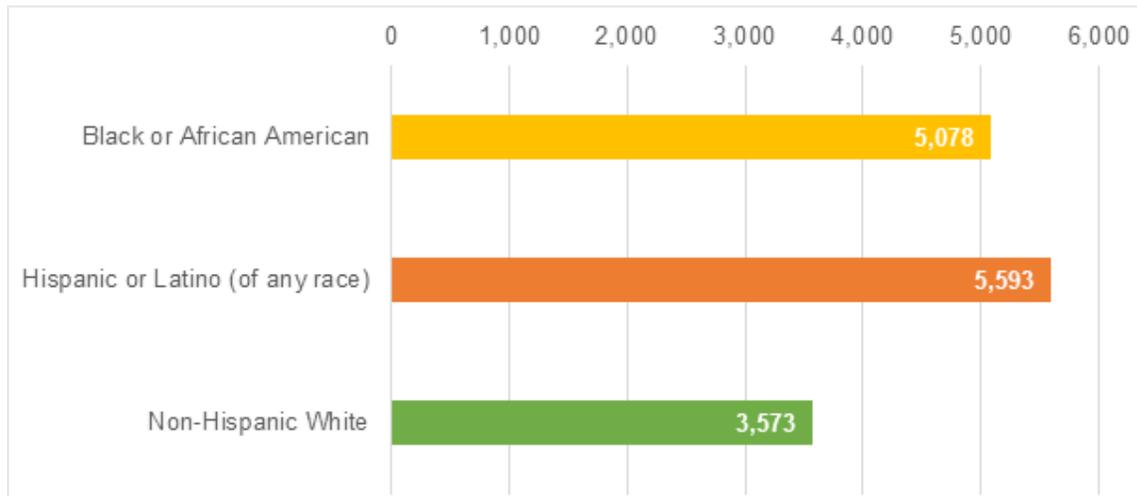
Source: VHA, Veterans Using VHA Services data provided by the Allocation Resource Center, 2/2/2021; HOC, NST Dataset, accessed on 8/30/2021.

Note: Veterans Using VHA Services are Veterans who used VHA services from April 1, 2019, to September 30, 2020. Veterans Using VHA Services is based on data from FY20 as VHA does not plan to update the population number until after completion of the FY21, which is after the Annex B Period. Veterans who died prior to February 1, 2020, were excluded from the Veterans Using VHA Services definition for this report in order to quantify Veterans at risk for COVID-19. Veteran confirmed positives figures exclude Veteran-Employees. Veteran COVID-19 cases include VHA conducted tests and Veteran self-reported test results to the VHA.

Figure 2.6 shows COVID-19 infections per 100,000 Veterans Using VHA Services by race and ethnicity. Black and Hispanic groups each exceeded 5,000 cases per 100,000 people; the Non-Hispanic White group was lower—approximately 3,500 cases per 100,000 people. Population mortality rates were also higher in Black and Hispanic communities, as shown in **Figure 2.7**.

The numbers of cases shown in **Figure 2.6** and **Figure 2.7** are primarily those confirmed through testing by VHA and do not include all cases confirmed through testing outside VHA. The counts also do not include asymptomatic cases that were never tested. However, the disparate rates of confirmed cases and deaths shown between races demonstrates that Veterans are experiencing the disparities known to exist across the United States.

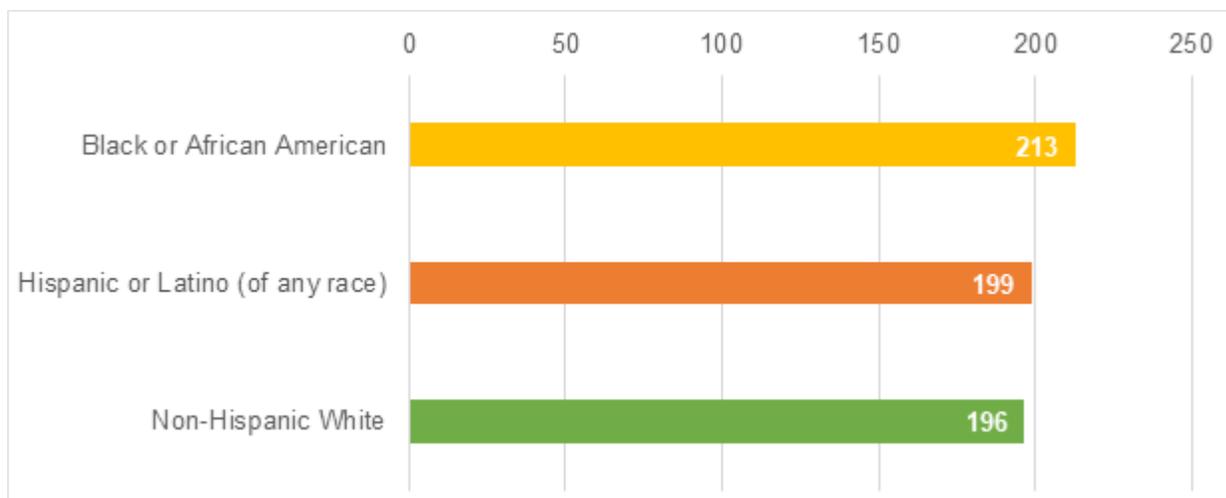
Figure 2.6: Cases of COVID-19 in the Total Population of Veterans Using VHA Services, by Race and Ethnicity, per 100,000 people (March 1, 2020 – July 31, 2021)



Source: HOC, NST Dataset, accessed 8/31/2021.

Note: COVID-19 deaths as of 7/31/2021. Figures for Veteran tests, confirmed positives, and deaths exclude Veteran-Employees. The following racial/ethnic groups were not included in the figure due to the relatively low number of counts in each category: American Indian, Alaska Native, Asian, Native Hawaiian and Other Pacific Islander and Veterans with multiple reported racial/ethnic categories. The population used for this figure consisted of the Veterans Using VHA Services during FY2020 and was captured from the CDW database to identify individual race and ethnicity within that population. Veterans with multiple positive case records were counted only once per patient integration control number.

Figure 2.7: COVID-19-associated Deaths in the Total Population of Veterans Using VHA Services, by Race and Ethnicity, per 100,000 people, March 1, 2020 – July 31, 2021



Source: HOC, NST Dataset, accessed 8/31/2021.

Note: “COVID-19-associated Veteran Deaths” refers to Veterans Using VHA Services who died within 30 days of an established lifetime-first COVID-19 case. For VHA determined cases, this means Veterans Using VHA Services who

died within 30 days of their first positive COVID-19 test. For cases determined outside VHA, this means Veterans Using VHA Services who died within 30 days of the date of their first COVID-19 laboratory-confirmed diagnosis was reported to VHA. COVID-19 deaths as of 7/31/2021. Veteran tests, confirmed positives, and deaths figures exclude Veteran-Employees. The following racial/ethnic groups were not included in the figure due to the relatively low number of counts in each category: American Indian, Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and Veterans with multiple reported racial/ethnic categories. The population of Veterans Using VHA Services during FY2020 was captured from the Corporate Data Warehouse database to identify individual race and ethnicity within that population. Veterans with multiple positive case records were only counted once per patient integration control number.

At the start of 2021, only 6 facilities exceeded 1,000 COVID-19 cases among Veterans Using VHA Services. The highest count was at the Omaha VA Medical Center (VAMC), with 1,440 cases. As of July 31, 2021, the 25 facilities listed in **Table 2.4** below exceeded 1,000 COVID-19 cases among Veterans Using VHA Services. Of these, 14 facilities exceeded 4,000 cases. The Omaha VAMC exceeded 5,000 cases, and the Kansas City VAMC exceeded 7,000 cases.

Table 2.4: Top 25 Facilities by Number of COVID-19 Cases among Veterans Using VHA Services (March 1, 2020 – July 31, 2021)

VISN	Facility Name	City, State	Veterans with COVID 19
15	Kansas City VAMC	Kansas City, MO	7,402
23	Omaha VAMC-VA Nebraska-Western Iowa HCS	Omaha, NE	5,407
8	Orlando VAMC	Orlando, FL	4,972
7	Atlanta VA HCS	Decatur, GA	4,857
7	Columbia VA HCS	Columbia, SC	4,843
17	South Texas Veterans HCS	San Antonio, TX	4,691
10	Louis Stokes Cleveland VAMC	Cleveland, OH	4,675
15	VA St. Louis HCS	St. Louis, MO	4,545
22	Phoenix VAMC	Phoenix, AZ	4,536
16	Michael E. DeBakey VAMC	Houston, TX	4,510
8	North Florida/South Georgia Veterans HCS	Gainesville, FL	4,367
17	VA North Texas HCS	Dallas, TX	4,253
2	VA Western New York HCS	Buffalo, NY	4,150
17	Central Texas Veterans HCS	Temple, TX	4,065
22	VA Loma Linda HCS	Loma Linda, CA	3,994
9	Tennessee Valley VA HCS	Nashville, TN	3,939
8	Bay Pines VA HCS	Bay Pines, FL	3,517
8	James A. Haley Veterans' Hospital	Tampa, FL	3,440
23	Minneapolis VA HCS	Minneapolis, MN	3,409
6	Salisbury - W.G. (Bill) Hefner VAMC	Salisbury, NC	3,345
19	VA Eastern Colorado HCS	Aurora, CO	3,160

VISN	Facility Name	City, State	Veterans with COVID 19
21	VA Southern Nevada HCS	North Las Vegas, NV	3,144
22	VA Long Beach HCS	Long Beach, CA	3,041
22	VA Greater Los Angeles HCS	Los Angeles, CA	3,008
9	James H. Quillen VA HCS	Mountain Home, TN	2,935

Source: ARC, Veterans Using VHA Services Data, 2/2/2021; HOC, NST Dataset, accessed 11/18/2021.
 Note: Veterans Using VHA Services are Veterans who used VHA services from April 1, 2019, to September 30, 2020. Veterans Using VHA Services is based on data from FY 2020 because VHA does not plan to update the population number until after completion of FY 2021, which is after the Annex B Period. Veterans who died prior to February 1, 2020, were excluded from the definition of Veterans Using VHA Services for this report in order to quantify Veterans at risk for COVID-19. Figures for Veteran confirmed positives figures exclude Veteran-Employees.

Updated Summary of Fourth Mission Data

During the Annex B Period, VA continued to conduct its Fourth Mission work at a historic pace, focusing on vaccination.²⁸ This included supporting mass vaccination events and vaccinating Federal employees from many agencies.²⁹ Due to the decrease in new COVID-19 cases, there was less need for new deployments during this time period.³⁰

Table 2.5 lists the number of FEMA Mission Assignments that VA supported from January 1, 2021, to July 31, 2021. More than half of the assignments focused on supporting vaccinations and roughly one-third on providing additional staffing. For more details, see the Fourth Mission section and Appendix C: Fourth Mission Activities.

Table 2.5: Number of New FEMA Mission Assignments by Support Type
 January 1, 2021 – July 31, 2021

Support Type	Number of FEMA Mission Assignments
Bed Capacity	2
Staffing Supplement	14
Subject Matter Expertise	1
Vaccinations	26
Grand Total	43

Source: VHA OEM, FEMA Mission Assignments, 10/13/2021.
 Note: Only assignments with a start date between January 1, 2021, and July 31, 2021, are included.

U.S. EPIDEMIOLOGY OF COVID-19

This section describes the progression of COVID-19 from January 1, 2021, to July 31, 2021, at a national level, including the vaccination campaign, the disparity of vaccination rates between U.S. states and the emergence of the Alpha and Delta variants.³¹

National Vaccination Campaign

As of July 29, 2021, CDC reported that about 189.9 million people in the United States (57.2% of the eligible U.S. population) had received at least one dose of a COVID-19 vaccine.³² Approximately 163.9 million people (49.4%) were fully vaccinated—79.9% of people over 65.³³

To be considered fully vaccinated, a person must have received two doses of the Moderna or Pfizer-BioNTech (commonly known as Pfizer) vaccine, or a single dose of the Janssen Johnson & Johnson (commonly known as J&J) vaccine.³⁴ Vaccination is considered complete two weeks after the final dose of the vaccine is administered.³⁵

In February 2021, FDA granted EUA for the J&J vaccine, the third vaccine available in the United States. J&J was also the first COVID-19 vaccine that required only one dose.³⁶

On May 10, 2021, FDA expanded the authorization for the Pfizer vaccine to include children 12 years old and older.³⁷

Vaccine Impact

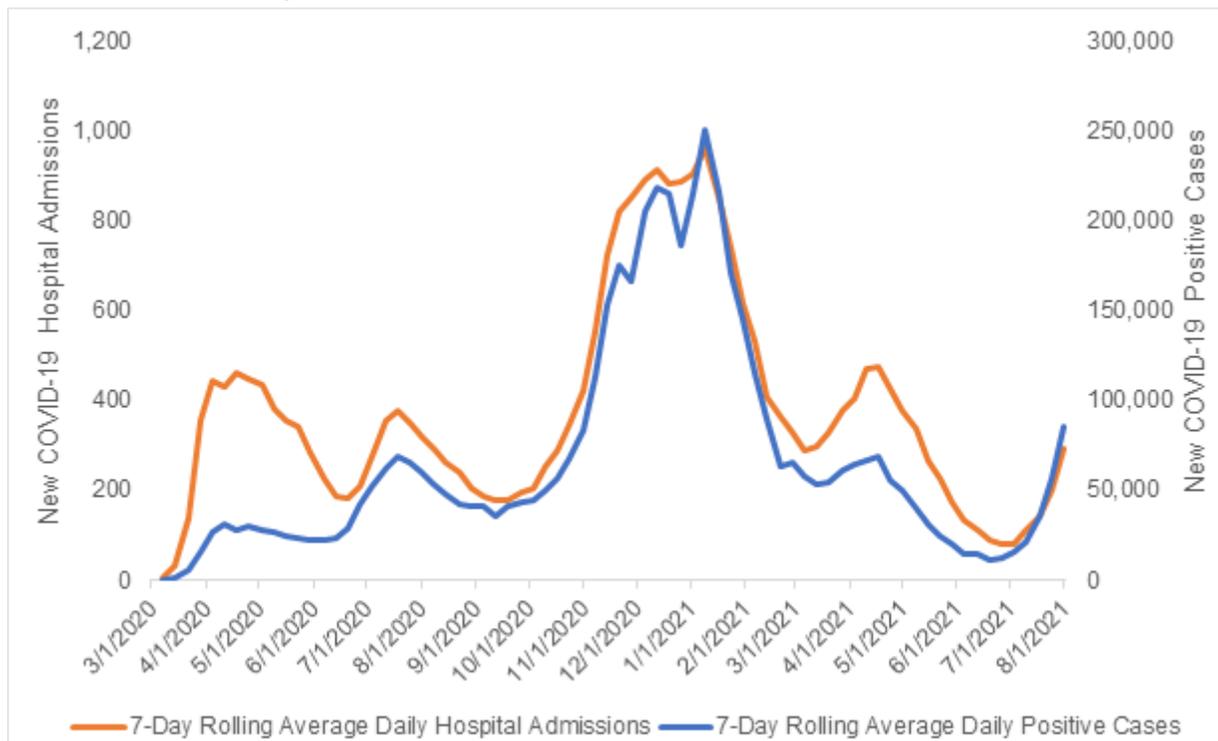
For a time, vaccinations greatly reduced the number of new COVID-19 cases in the United States.³⁸ The number of U.S. COVID-19 cases dropped from a high of 300,777 reported cases on January 8, 2021, to 4,063 reported cases on June 20, 2021.³⁹

Mass vaccination creates the potential for population immunity, also known as herd immunity. When enough people have received the vaccine, it makes it difficult for the disease to move from person to person, thereby reducing the spread of the infection to very low levels.⁴⁰ CDC and the World Health Organization (WHO) have both stated that population immunity would require the vaccination of a substantial proportion of a country's population.⁴¹ As of the publication of this report, neither

CDC nor WHO were able to state with certainty the percentage of the U.S. population that would need to receive COVID-19 vaccinations to attain herd immunity because this estimate will vary with the transmissibility of variants.⁴²

Figure 3.1 shows COVID-19-related new hospital admissions and positive cases on a seven-day rolling average. Throughout most of the pandemic, the number of hospital admissions and positive cases tended to align, increasing and decreasing together.

Figure 3.1: Seven-Day New Hospital Admissions and Positive Cases in the U.S. March 1, 2020 – July 31, 2021



Source: CDC, COVID-NET Network: Hospitalizations, accessed 9/15/2021; CDC, “Trends in Number of COVID-19 Cases and Deaths in the U.S. Reported to CDC, by State/Territory,” accessed 9/16/2021.
 Note: CDC reports U.S. hospital admissions as weekly seven-day totals, rather than daily numbers. The Seven-Day Rolling Average Hospital Admissions were calculated by dividing the weekly totals by seven. CDC does not report if COVID-19 patients in the hospital are vaccinated. The hospital admissions data are subject to data reporting lag for recent dates.

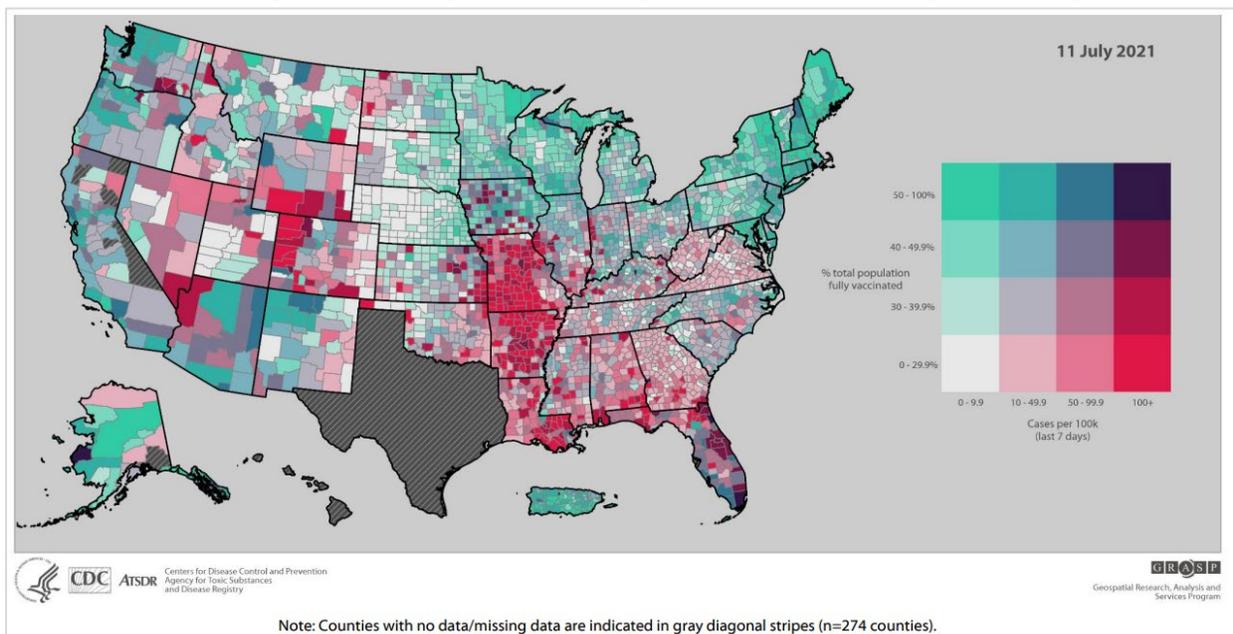
Vaccination Rate Differences by Region

On May 4, 2021, the White House set a goal for 70% of U.S. adults to receive at least one dose of the vaccine by July 4, 2021.⁴³ Only 20 states, Washington, D.C., Puerto Rico and Guam reached the White House goal by July 4, 2021.⁴⁴

Throughout the Annex B Period, the rate of vaccination varied widely by state. As of July 13, 2021, Vermont's vaccination rate was the highest in the Nation at 82.8%.⁴⁵ Alabama was the lowest at 34%, as reported on July 28, 2021.⁴⁶

Figure 3.2 shows a map of the United States with colors to represent varying degrees of vaccinated residents and the corresponding number of reported cases of COVID-19 as of July 11, 2021. Counties with dark red had low vaccination rates and high numbers of COVID-19 infection. Locations with light green had higher vaccination rates and lower instances of the virus.

Figure 3.2: U.S. COVID-19 Reported Cases per 100,000 Population (over 7 days) and Percent of Total Population Fully Vaccinated (March 1, 2020 – July 11, 2021)



Source: CDC, "COVID-19 Pandemic: Vaccinations by Case Rate," 7/13/2021.

Note: Data were reported to CDC by State/Territorial Jurisdictions/Select Federal Entities for 7/11/2021 and 7/13/2021.

Vaccination Rate Differences by Age

In April 2021, the CDC director reported that they were observing an increase in cases among young adults, ages 18-24.⁴⁷ CDC stated that the reasons for this uptick might include sports and other close-contact youth activities.⁴⁸

Vaccines became available to everyone over 16 on April 19, 2021.⁴⁹ Since then, young adults (18-29) have been vaccinated at the lowest rate of all eligible adults.⁵⁰ According to surveys conducted by CDC, from March through May 2021, adults ages

18-24 were the least likely to report having been vaccinated and the most likely to be unsure they would obtain vaccination.⁵¹

CDC continues to stress the importance of vaccination in all eligible groups.⁵²

Children Under 12 Years Old

As of July 31, 2021, no COVID-19 vaccines were authorized for children under 12.⁵³ According to FDA, clinical trials for children's vaccines take longer than adult trials, in part because the dosage needs to be studied more closely.⁵⁴ As of the writing of this report, FDA had not offered a specific timeframe for the authorization of children's COVID-19 vaccines.⁵⁵

CDC has stated that children can still become infected with COVID-19, get sick and spread the disease to others.⁵⁶ A study published in December 2020 found that children can carry a similar viral load to adults.⁵⁷ According to the study, "children may be a potential source of contagion in the SARS-CoV-2 pandemic despite having milder disease or lack of symptoms."⁵⁸

To protect unvaccinated children from infection, CDC recommends continuing to take the recommended precautions. Wearing masks indoors and social distancing are still considered important to stop the spread of the virus.⁵⁹

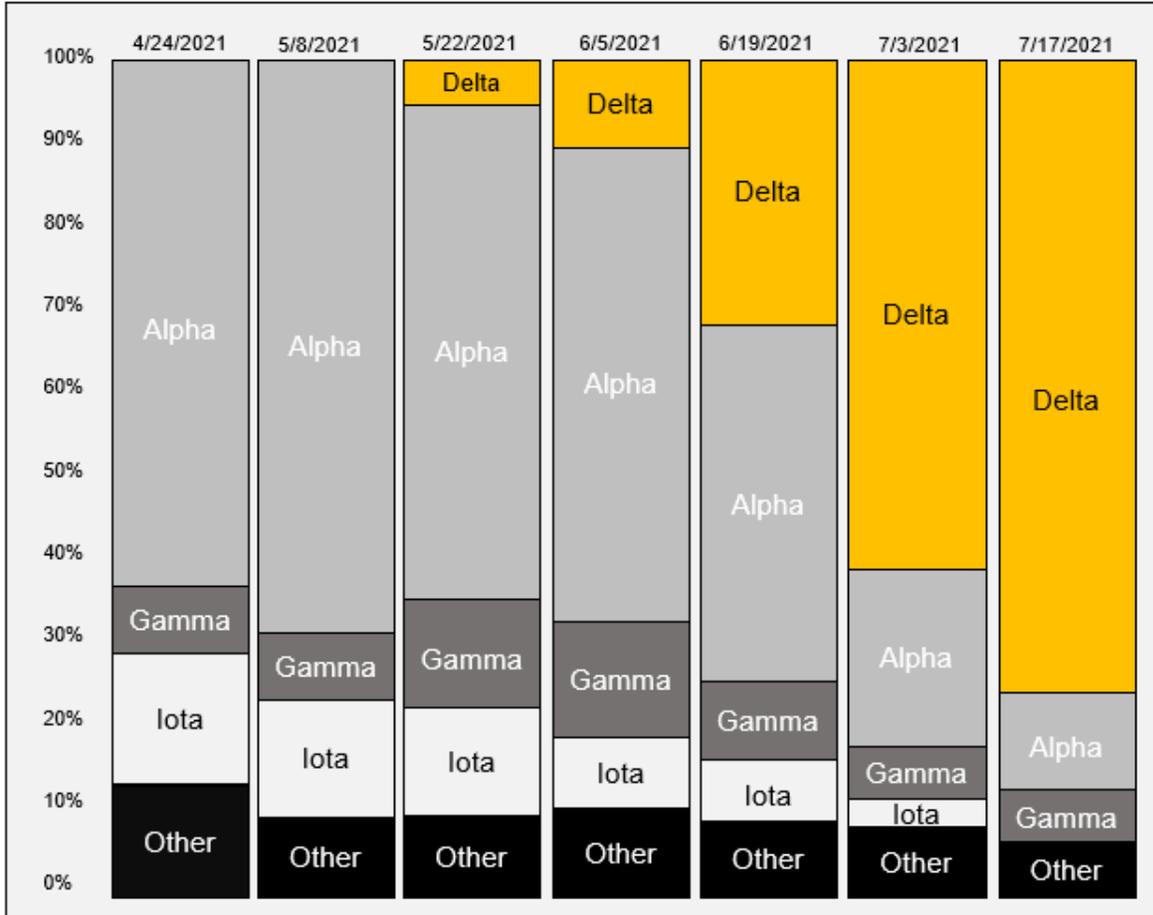
According to CDC, introductions of new variants will likely continue to impact the Nation's understanding of the virus and its effect on children and adolescents.⁶⁰

COVID-19 Variants

As a part of their natural evolution, viruses change and introduce new variants to communities.⁶¹ As the pandemic has persisted, the original strain of COVID-19 has mutated, creating a number of variants.⁶² Variants are modified forms of SARS-CoV-2, the virus that causes COVID-19.⁶³ Some mutations can make the virus more infectious, prevent detection with current tests, and be less sensitive to treatments or the protection of vaccines.⁶⁴

The most concerning variants globally during this period were the Alpha (B.1.1.7), Beta (B.1.351), Gamma (P.1) and Delta (B.1.617.2) variants.⁶⁵ During the Annex B Period, the Alpha and Delta variants were the most prevalent strains in the United States.⁶⁶ **Figure 3.3** shows the prevalence of major strains in the United States from April 2021 to July 2021, as reported by CDC.

Figure 3.3: SARS-CoV-2 Variants Circulating in the United States
 April 11, 2021 – July 17, 2021



Source: CDC, "Interpretative Summary, SARS-CoV-2 Variants," 7/30/2021, accessed 10/4/2021. Ref D341
 Note: The Other category includes variants with smaller percentages of strain presence within each time period, including Beta, Epsilon, Iota, Gamma, B.1.621, B.1.628, B.1.621.1, B.1.525, B.1.617.3. Data includes Nowcast estimates, which are modeled projections that may differ from weighted estimates generated at later dates. Some sublineages (including those for P.1 and B.1.351) are aggregated with the parent lineage and included in parent lineage's proportion. AY.1, AY.2 and AY.3 are aggregated with B.1.617.2. All numbers are approximate.

HHS has founded a SARS-CoV-2 Interagency Group (SIG) as part of its effort to address the ongoing challenges associated with COVID-19.⁶⁷ In addition to coordinating efforts between agencies fighting COVID-19, SIG monitors disease variants and classifies them based on their potential resistance to COVID-19 countermeasures.⁶⁸

These are the categories, listed in increasing order of severity:⁶⁹

- Variants Being Monitored

- Variants of Interest
- Variants of Concern
- Variants of High Consequence

The Alpha, Beta and Gamma strains are all Variants Being Monitored. Although they might have impacted medical countermeasures, they are no longer in wide enough circulation to cause grave concern.⁷⁰ CDC will continue to monitor these variants.⁷¹

The Delta variant is currently listed as a Variant of Concern.⁷² Attributes associated with Variants of Concern are increased transmissibility, more severe cases (including increased hospital admissions and death) and possible reduction in the effectiveness of vaccines.⁷³

The Alpha Variant

The Alpha variant was originally identified in the United Kingdom, where it was first discovered in September 2020.⁷⁴ The United States reported its first Alpha variant infection in January 2021.⁷⁵

The Alpha variant is 50% more contagious than the original COVID-19 virus, according to CDC.⁷⁶ By April 2021, the Alpha variant was the dominant strain in the United States, representing more than 70% of COVID-19 cases.⁷⁷

The spread of the Alpha variant was pervasive, but vaccines were highly effective against it.⁷⁸ According to CDC, the messenger ribonucleic acid (mRNA) vaccines (Pfizer and Moderna) were more than 85% effective against the Alpha variant.⁷⁹

In April 2021, the Alpha variant was the dominant strain of COVID-19, as shown in **Figure 3.2**.⁸⁰ Just three months later, the Alpha variant made up less than 10% of active cases in the United States.⁸¹

The Delta Variant

In the last week of July 2021, the United States experienced a sudden and significant increase in COVID-19 cases.⁸² From June 19, 2021, (11,493 reported cases) to July 20, 2021, (68,717 reported cases) the number increased by almost 500%.⁸³ CDC attributes the sudden increase in infections to the rise of the highly contagious Delta variant.⁸⁴ **Table 3.1** below shows how the number of U.S. COVID-19-associated hospital admissions and deaths declined from January to June 2021, and then experienced an uptick in July 2021.

Table 3.1: U.S. COVID-19 Deaths by Age Groups (January, June, July 2021)

Age Group	COVID 19 Deaths			% of COVID 19 Deaths		
	January 2021	June 2021	July 2021	January 2021	June 2021	July 2021
0-17	49	13	17	0.05%	0.17%	0.16%
18-29	365	64	153	0.35%	0.82%	1.44%
30-39	1,064	194	354	1.01%	2.49%	3.32%
40-49	2,831	510	834	2.69%	6.54%	7.83%
50-64	15,781	2,071	2,777	15.01%	26.54%	26.07%
65+	85,026	4,950	6,519	80.89%	63.45%	61.19%
Total	105,116	7,802	10,654	100.00%	100.00%	100.00%

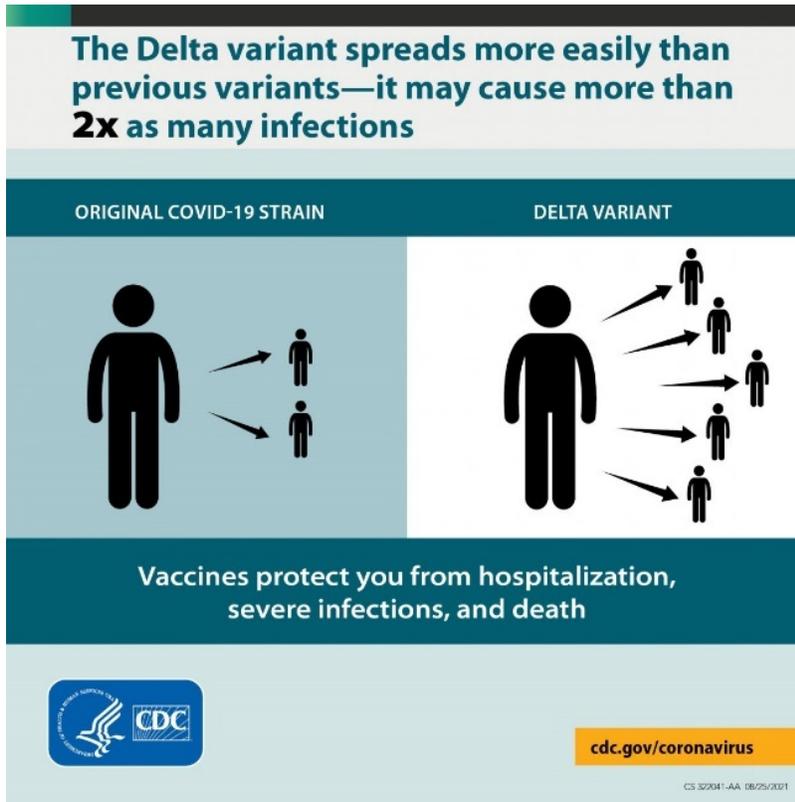
Source: CDC, "Provisional COVID-19 Deaths by Sex and Age, National Center for Health Statistics," accessed 9/16/2021.

Note: CDC-aggregated numbers may be incomplete due to the lag in time from the date of death to the submission of death to NCHS. The delay may be one week, eight weeks or more. Totals may not add due to rounding.

The Delta variant was first identified in India in December 2020.⁸⁵ It spread through India before moving to the United Kingdom.⁸⁶ It was first detected in the United States in March 2021.⁸⁷ Within months, it became the most prominent variant in the country.⁸⁸ As of May 2021, the Delta variant was found in 43 countries across 6 continents.⁸⁹

According to CDC, the Delta variant spreads more easily than earlier forms of SARS-CoV-2, including the Alpha variant.⁹⁰ On July 27, 2021, CDC released new information about the Delta variant, including a statement that the variant was twice as contagious as previous variants, as shown in **Figure 3.4**.⁹¹

Figure 3.4: CDC Delta Variant Poster



Source: CDC, "Delta Variant: What We Know About the Science," accessed 9/2/2021.

Although the Delta variant is easier to contract and spread than the original COVID-19 virus, CDC reports that fully vaccinated people are still more protected from the Delta variant than unvaccinated people.⁹² Although post-vaccination cases are higher with the Delta variant, vaccination has been shown to reduce the likelihood of severe illness or hospitalization.⁹³ CDC reported that as of July 31, 2021, the vast majority of hospital admissions and deaths caused by the Delta variant are in unvaccinated people.⁹⁴

In response to the rise of the Delta variant, some states reinstated COVID-19 restrictions. For instance, many states had lifted their mask mandates in May, but the requirements began to reappear in July 2021.⁹⁵ On July 27, 2021, CDC updated its COVID-19 prevention strategies to address the ongoing risks associated with the Delta variant.⁹⁶ One of the recommendations was that everyone—regardless of vaccination status—should wear a mask in public indoor spaces in areas with “substantial or high transmission.”⁹⁷

Because Delta is so readily transmitted, the percentage of the population that needs to be vaccinated to reach population immunity is higher.⁹⁸ One estimate placed the necessary vaccination rate at 85%.⁹⁹ At the close of the Annex B Period, there was an uptick in vaccination rates, which may have been motivated by the increased number of COVID-19 cases brought on by the Delta variant.¹⁰⁰

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TESTING

From January 1, 2021, to July 31, 2021, VHA saw improvements in its testing processes.¹⁰¹ Supplies needed for testing became easier to procure, and better access to antigen testing aided in reducing the challenges experienced in earlier periods.¹⁰² VHA was also able to obtain additional supplies for high-throughput machines and replace older machines with new ones.¹⁰³

Although testing became easier, VHA experienced challenges in its testing protocols. Issues that affected testing included the following:¹⁰⁴

- Community spread of COVID-19
- Vaccination availability
- Emergence of the Delta variant
- Directives for testing and vaccinations

As part of an inter-governmental task force established in January 2021, VHA assisted in the creation of the COVID-19 pandemic testing board.¹⁰⁵ The board's primary job is to create a national testing and sustainable public health workforce strategy to fight COVID-19.¹⁰⁶

As the Nation's largest integrated system, VHA shared important insights for issues addressed by the task force.¹⁰⁷ The task force worked on issues including testing, modeling to forecast requirements and supplies for a national stockpile. These issues led to discussions with manufacturers and others as to how to support forecasted requirements for VHA and the overall Federal response.¹⁰⁸

Laboratory Testing

During this time period, supplies for testing became more readily available, and VHA was able to better address the short-term surges in testing.¹⁰⁹ The enhanced availability of antigen tests coupled with the current PCR testing expanded testing bandwidth.¹¹⁰ VHA laboratories perform three kinds of tests to detect COVID-19: PCR, antigen and antibody.¹¹¹

- **PCR:** This test looks for the genetic material of the virus responsible for COVID-19 within the person's body. It is a sensitive means of detecting fragments of the virus in the body and used for diagnostic purposes. The test is capable of detecting small quantities of viral molecules via concentration of the specimen, which may not represent current infection. Correlation of

concentrations associated with positive results with clinical assessment is important.¹¹²

- **Antigen:** This test detects specific viral proteins responsible for COVID-19. It returns results faster than the PCR, but is less sensitive, which means false negatives will occur.¹¹³ As of the Annex B Period, VHA uses antigen tests as a rapid first-line screening and diagnostic tool for COVID-19.¹¹⁴
- **Antibody:** This test identifies antibodies a person's body produces to portions of the virus responsible for COVID-19. As of this period of the response, antibody test results were not useful for diagnosis or confirmation of immunity, so these tests were not used clinically by VHA.¹¹⁵

VHA standardized the laboratory processes for COVID-19 tests to enable consistent naming and reporting conventions for recording and reporting results to VHA facilities, local or state health facilities and nationally.¹¹⁶

Testing for Clinical and Surveillance Purposes

The Guidebook on COVID-19 Testing V2.0 (hereafter referred to as “the Guidebook”) presents guidelines for COVID-19 isolation, work-up, testing and interpretation of results for clinical and occupational situations.¹¹⁷ The details of the Guidebook present scenarios for testing patients in clinical settings: symptomatic or asymptomatic, possible COVID-19 exposure scenarios, surveillance or pre-screening for procedures, testing during an outbreak response, staff testing and guidance for the use of sequencing via the Sequencing for Research Clinical and Epidemiology (SeqFORCE), which is described later in this section.¹¹⁸

Antibody testing has changed over time. Initially, the test was used to understand the stage of the immune system response to acute infection.¹¹⁹ As of the Annex B Period, updates to lab guidance removed clinical recommendations for antibody testing, and the tests were used mostly in research to understand acute disease. Antibody testing was not used to diagnose COVID-19.¹²⁰

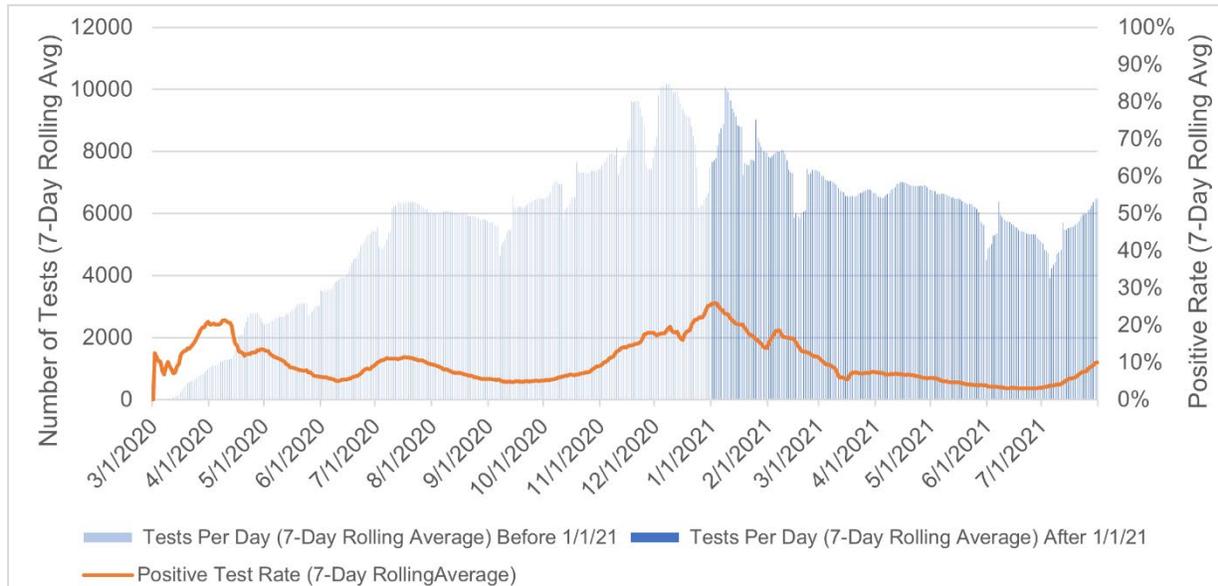
In April 2021, VHA provided guidance to implement population-based testing, which included Veterans and employees working in CLCs and SCI/D units.¹²¹

COVID-19 Testing and Cases for Veterans

From March 1, 2020, through July 31, 2021, a total of 6,458,171 Veterans made use of VHA services.¹²² Of those, 1,379,714 (21%) were tested for COVID-19, and 256,333 (18.6%) of those tested were confirmed positive.¹²³

Figure 4.1 shows COVID-19 tests and the percent positive of Veterans Using VHA Services.¹²⁴ The dark blue identifies the Annex B Period. Positive tests were higher in the beginning of 2021 and decreased as vaccination rates grew.¹²⁵ By July 2021, the numbers had started to increase again, due to the Delta variant.¹²⁶

Figure 4.1: COVID-19 Tests and Results for Veterans Using VHA Services



Source: HOC, NST Dataset, accessed 8/30/2021.

Note: This chart contains testing data for Veterans Using VHA Services compiled from Case Reviews and VA Lab-certified COVID-19 tests, including antigen tests. Case Reviews tests are conducted outside of VHA network. VHA expanded its testing capacity in fall 2020, decreasing dependency on external referral laboratories.

Testing Requirements for VHA Employees

On July 28, 2021, VA announced a vaccine mandate for a subset of VA health care employees, including physicians, registered nurses, physicians assistants and dentists who conduct in-person work at VA facilities.¹²⁷ Employees claiming religious or medical exemptions are subject to weekly testing.¹²⁸ Additionally, the White House issued a Federal announcement on July 29, 2021, which required all Federal employees and onsite contractors to attest to being vaccinated or comply with weekly or twice weekly screening tests.¹²⁹

At the time, VHA was processing 70,000-80,000 tests a week, with a potential increase of up to 90,000 caused by the increasing cases from the Delta variant.¹³⁰ Estimates of additional required tests for unvaccinated staff were 70,000-110,000 employees per week.¹³¹ This could have represented a doubling of the VHA's weekly

testing requirement.¹³² However, soon after the end of the Annex B Period, a Presidential Executive Order eliminated testing as an alternative to vaccination for Federal employees.¹³³

Genomic Sequencing

As part of its efforts to track variants, VHA's SeqFORCE is sequencing the viral genome.¹³⁴ SeqFORCE is using positive samples of COVID-19 for this process.¹³⁵

Founded in March 2021, VHA SeqFORCE is tasked with studying and tracking variant COVID-19 strains within the VA population.¹³⁶ VHA SeqFORCE is set up in five Clinical Laboratory Improvement Amendments (CLIA)-certified laboratories:¹³⁷

- VA Public Health Reference Laboratory in Palo Alto, California
- VA clinical laboratories in Iowa City, Iowa; Los Angeles, California; Boise, Idaho; and New York, New York; two additional laboratories soon to be added: Eastern Colorado and Indianapolis, Indiana

Sequence data is used for clinical management and epidemiological studies and are reported nationally.¹³⁸ The results are documented in patient records for them to access and can be reviewed with providers for management of various specific treatment protocols for patients.¹³⁹ The Guidebook provides general guidance as to which samples should be submitted for VA SeqFORCE.¹⁴⁰

Most of the sequencing laboratories were operational as of July 1, 2021.¹⁴¹ At that time, 90% of the sequencing was managed at the VA Public Health Reference Laboratory.¹⁴²

VHA hopes to have each site sequencing 100 tests per day by October 1, 2021, but regional laboratories are still working to improve capacity.¹⁴³ These are some of the challenges:

- The chip in the sequencing machines, which is critical to the platforms used in rapid sequencing of samples, is in short supply around the world.¹⁴⁴
- There is high demand for experienced laboratory professionals who are skilled in sequencing, which can make it difficult to keep these employees.¹⁴⁵

VACCINATION

During the Annex B Period—January 1, 2021, to July 31, 2021—three vaccines were used to provide protection against COVID-19; the three vaccines were:¹⁴⁶

- Pfizer-BioNTech (commonly known as Pfizer)
- Moderna
- Janssen Johnson & Johnson (commonly known as J&J)

FDA granted EUA for all three vaccines so they could be used to respond to the pandemic; none had received full approval as of July 31, 2021.¹⁴⁷

In January 2021, the White House announced that it hoped to administer 100 million doses of COVID-19 vaccines by April 30, 2021.¹⁴⁸ After this goal was met in March 2021, the White House doubled its goal to 200 million doses. This goal was also met prior to the April 30, 2021 deadline.¹⁴⁹

Table 5.1 below shows the number of Veterans Using VHA Services who were vaccinated by VHA and the number vaccinated overall (including those vaccinated outside VHA). The same data points are provided for VHA employees. As of July 31, 2021, over half of enrolled Veterans and almost two-thirds of VHA employees were vaccinated.

Table 5.1: Veterans Using VHA Services and VHA Employees' Vaccinations, March 1, 2020 – July 31, 2021

	Vaccinated by VHA		Total Vaccinated (administered by VHA and outside VHA)	
	Number	% of Population	Number	% of Population
Veterans Using VHA Services	2,353,276	36.44%	3,440,648	53.28%
VHA Employees	243,031	63.51%	245,707	64.21%

Source: VHA, Allocation Resource Center (ARC), 2/2/2021; VHA, VSSC, CDW Database, accessed on 9/20/2021; VHA, VSSC, CDW Database, accessed 10/1/2021.

Note: Veterans Using VHA Services are Veterans who used VHA services from April 1, 2019, to September 30, 2020. Veterans Using VHA Services is based on data from FY2020 because VHA does not plan to update the population number until after completion of FY2021, which is after the Annex B Period. Veterans who died prior to February 1, 2020, were excluded from the definition of Veterans Using VHA Services for this report in order to quantify Veterans at risk for COVID-19. Figures for Veteran confirmed positives exclude Veteran-Employees. Vaccinations include those administered by VHA. Total Vaccinated includes vaccinations administered by VHA and self-reported vaccinations administered outside VA. Veteran vaccinations counts are for Veterans Using VHA Services who have received at least one vaccination dose as of 7/31/2021. Employees numbers are as of 7/26/2021, which is before VA mandated the COVID-19 vaccine on 7/28/2021 for Title 38 health care personnel. Employee Vaccinations counts are for employees who have received at least one vaccination dose. Only paid VHA employees are included in these numbers; contractors and volunteers in VISNs are not included.

Vaccines were distributed and administered in a phased approach following the recommendations given by CDC:¹⁵⁰

- **Phase 1a:** All health care personnel (HCP) and long-term care (LTC) residents eligible for vaccination (began on December 17, 2020, and continued into January 2021)¹⁵¹
- **Phase 1b:** People 75 years and over and also frontline essential workers¹⁵²
- **Phase 1c:** People 65-74, people 16-64 with medical conditions that made them higher-risk, and non-health care essential workers who were not included in Phase 1a or 1b eligible for vaccination¹⁵³
- **Phase 2:** All people 16 and older who were not included in the previous phases¹⁵⁴

VHA distributed vaccines based on CDC's prioritized recommendation schedule and factored in the unique circumstances of each facility.¹⁵⁵ During the week of January 4, 2021, VHA began Phases 1b and 1c at some of its facilities in accordance with the VHA Risk Stratification Framework based on Executive in Charge (EIC) guidance.¹⁵⁶ To consider the unique needs of different communities, EIC guidance encouraged independence for individual facilities, allowing them to use their judgment about moving on to later phases of vaccination.¹⁵⁷ By permitting VHA sites to move through phases based on what made sense for their population, VHA increased its efficiency and prevented potential waste.¹⁵⁸

The SAVE LIVES Act, enacted on March 24, 2021, authorized VHA to vaccinate not only Veterans who were not eligible to enroll in VHA services and eligible Veterans abroad, but also the family members, beneficiaries and caregivers of Veterans.¹⁵⁹ VHA also vaccinated Federal employees through interagency agreements, as part of its Fourth Mission.¹⁶⁰ According to VHA leadership, the expanded scope of vaccinations and working with organizations and people outside of VHA introduced challenges and complexities that needed to be worked through quickly.¹⁶¹

The Vaccines

This section provides information about the vaccines themselves. No vaccine can prevent all recipients from infection with COVID-19, but all three vaccinations markedly decrease the likelihood of infection, thereby decreasing the likelihood of transmission.¹⁶² U.S. health officials, including VHA, continue to encourage vaccination to reduce the spread of the disease.

Moderna and Pfizer Vaccines

At the beginning of the Annex B Period, the Pfizer and Moderna vaccines were being administered, in keeping with FDA EUAs. Both vaccines require two doses to be most effective.¹⁶³

Pfizer doses are given 21 days apart.¹⁶⁴ Moderna doses are administered 28 days apart.¹⁶⁵ In May 2021, FDA issued EUA for the Pfizer vaccine for recipients from 12-15 years old.¹⁶⁶

Both Pfizer and Moderna are mRNA vaccines.¹⁶⁷ The vaccines deliver a piece of genetic code from the virus that instructs the body's cells to manufacture copies of the penetrative protein of the virus, called the spike protein.¹⁶⁸ The spike protein generates an immune response in the body that is capable of recognizing and responding to the virus if the person encounters the actual virus in the future.¹⁶⁹

J&J Vaccine

The J&J vaccine was released to the public after it was given EUA by FDA in February 2021.¹⁷⁰ Unlike Pfizer and Moderna, this vaccine requires only one dose.¹⁷¹ According to VHA leadership, this made the J&J vaccine an appealing option to its organization and Veterans.¹⁷²

J&J is a carrier vaccine.¹⁷³ The carrier vaccine delivers a harmless common virus as a shell that holds the genetic coding to build spike proteins.¹⁷⁴ When the shell enters host cells, the cells use the genetic code to produce spike proteins to train the body's immune system to protect against the actual virus.¹⁷⁵

On April 10, 2021, usage of the J&J vaccine was paused in the United States because of a blood clotting disorder reported in 6 of its recipients and 1 associated death.¹⁷⁶ FDA halted the distribution in order to review the six reported cases of serious blood clots.¹⁷⁷ A warning was added to the J&J vaccine EUA Fact Sheets about the risk of this disorder, and FDA and CDC announced that the vaccine was safe to be re-introduced to the public on April 23, 2021.¹⁷⁸



These Tampa VA Environmental Management Services leaders have all been vaccinated against COVID-19 and are encouraging everyone, especially people of color, to get vaccinated. (Photo credit: VHA)

Efficacy of the COVID-19 Vaccines

Researchers are continuing to study the efficacy of the three COVID-19 vaccines available in the United States.¹⁷⁹ This is a continuous process as the virus changes and evolves and as more data is collected.¹⁸⁰ Individuals are considered fully vaccinated two weeks after their full dosage (two doses for Pfizer and Moderna, one dose for J&J).¹⁸¹

In January 2021, Pfizer reported vaccine efficacy of 95% against COVID-19.¹⁸² In April 2021, the company revised this estimate, reporting that the vaccine was actually 91.3% effective for up to six months after the second dose.¹⁸³ Studies also found that the Pfizer vaccine was very effective at protecting against severe

disease.¹⁸⁴ For the Alpha variant, Pfizer was found to be 95% effective in preventing serious disease or death.¹⁸⁵

According to Moderna, its vaccine is over 90% effective in preventing COVID-19 and over 95% effective in preventing severe cases for the original (often called ancestral) strain.¹⁸⁶ However, according to a CDC study of nursing home residents at varying intervals after full vaccination in August 2021, Moderna was found to be only 50.6% effective against infection with the Delta variant.¹⁸⁷

In February 2021, CDC reported that the J&J vaccine had an efficacy rate of 72% overall, and an 85% efficacy rate against severe disease.¹⁸⁸ In July 2021, Johnson & Johnson reported that its vaccine demonstrated strong, persistent activity against the Delta variant, as well as a durable immune response through at least eight months. However, a later study suggested that the J&J vaccine generated a weaker neutralizing antibody response against Delta than the mRNA vaccines.¹⁸⁹ Neutralizing antibodies are found in people who have recovered from COVID-19 or completed a COVID-19 vaccination series. Antibodies are produced by the body's immune system as a protection from infection, and neutralizing antibodies render an infectious agent, such as a virus, incapable of penetrating the body's cells.¹⁹⁰

Studies published immediately following the Annex B Period provided clearer evidence of vaccine effectiveness against the Delta variant. A study of neutralizing antibody effectiveness against the Delta variant showed reduced sensitivity of this variant to antibodies from subjects previously infected with the ancestral form of the virus.¹⁹¹ The Delta variant also showed reduced sensitivity to antibodies from those vaccinated with the Pfizer and Moderna vaccines (a 3.9-fold reduction in sensitivity).¹⁹² However, a CDC study of data gathered from March 2021 through August 2021 (the time period during which the Delta variant became dominant in the United States) found sustained effectiveness of the vaccines in preventing serious illness.¹⁹³ The CDC study found that vaccine effectiveness against COVID-19 hospital admissions was 93% for the Moderna vaccine, 88% for the Pfizer vaccine and 71% for the J&J vaccine.¹⁹⁴

Post-Vaccination Cases

VHA defines a post-vaccination infection as a laboratory identification of infection in a person 14 or more days after they have been fully vaccinated.¹⁹⁵ These are sometimes referred to as "breakthrough" cases. VHA prefers to use "post-vaccination" cases because the term breakthrough can imply vaccine failure.

Because vaccines are never 100% effective, some post-vaccination infections are to be expected.¹⁹⁶

Early in the Annex B Period, post-vaccination cases of COVID-19 were fairly rare.¹⁹⁷ As of April 30, 2021, approximately 101 million people in the United States were fully vaccinated; a total of 10,262 breakthrough cases were reported at this time, amounting to a rate of confirmed breakthrough cases of 0.01%.¹⁹⁸

As the Delta variant became more prominent, post-vaccination cases increased. A CDC report covering May 3, 2021, to July 25, 2021, found that the age-adjusted vaccine effectiveness rate against infection for New York state adults decreased from 91.7% to 79.8%.¹⁹⁹ According to CDC, this coincides with the Delta variant's increased presence in the United States; from May through July, Delta cases went from less than 2% to over 80%.²⁰⁰

VHA conducted an analysis of COVID-19 case rates confirmed each week from May 3, 2021, to August 2, 2021.²⁰¹ VHA observed an increasing percentage of post-vaccination cases among confirmed COVID-19 cases during this time frame—18% during the week of May 3, 2021, and 28% during the week of July 26, 2021.²⁰²

In summer 2021, hospital admissions increased among both vaccinated and unvaccinated Veterans. However, the majority of Veterans who were hospitalized with COVID-19 were unvaccinated.²⁰³ Unvaccinated Veterans were also significantly more likely to experience severe illness after infection.²⁰⁴

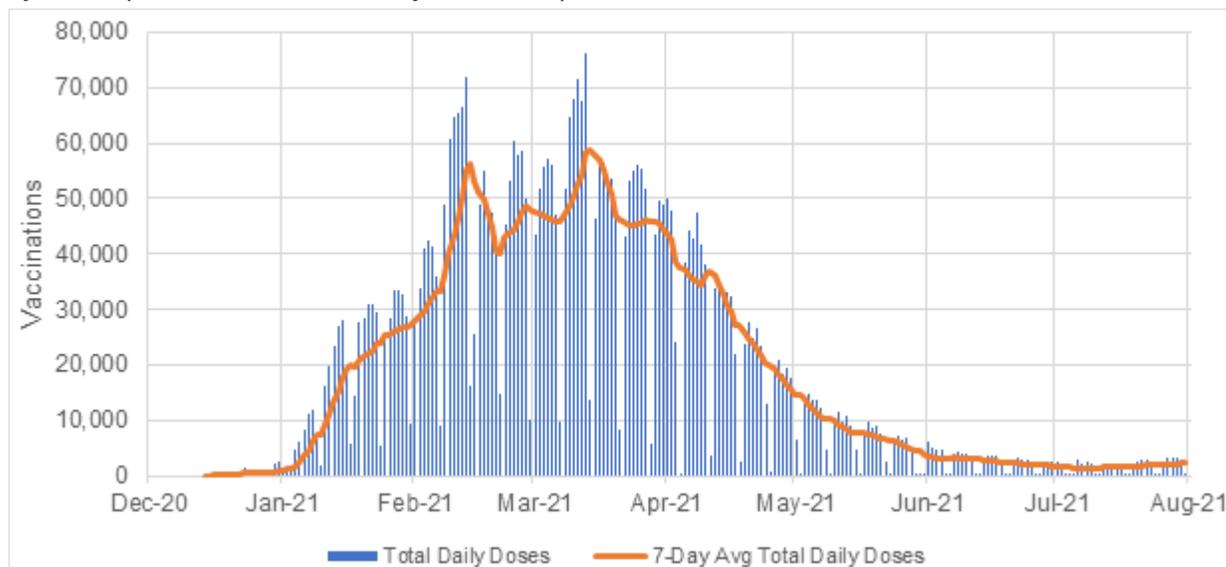
Vaccine Distribution

When vaccination started, there was a limited supply of vaccines.²⁰⁵ By March 2021, supply began to catch up with demand.²⁰⁶ VHA held several successful mass vaccination events to vaccinate many Veterans quickly.²⁰⁷

There were some challenges to vaccine distribution, especially early on. VHA leadership cited vaccine storage and data tracking as examples.²⁰⁸

Figure 5.1 illustrates the number of doses administered daily by VHA to Veterans Using VHA Services.²⁰⁹ The number of doses administered increased over time and peaked at more than 70,000 daily doses in February 2021. Demand for the vaccine began to decline in the spring.²¹⁰

Figure 5.1: Veterans Using VHA Services Daily COVID-19 Vaccinations Administered by VHA (March 1, 2020 – July 31, 2021)



Source: VHA, VSSC, CDW Database, accessed 10/1/2021.

Note: Vaccinations include first and second doses administered by VHA. Booster doses administered by VHA are not included in this chart. Veteran vaccinations counts are for Veterans Using VHA Services who have received at least one vaccination dose as of 7/31/2021.

Vaccine Storage

According to VHA leadership, one of the initial issues with distribution stemmed from the storage requirements for the vaccines.²¹¹ The Pfizer and Moderna vaccines had to be stored in freezers.²¹² The Pfizer vaccine required storage in a very cold freezer, from -80°C to -60°C (-112°F to -76°F).²¹³ The vaccine could be stored in these freezers for up to six months.²¹⁴ Thawed, undiluted vaccine could be stored in standard refrigerator temperatures, from 2°C to 8°C (36°F to 46°F), for up to 5 days.²¹⁵

In May 2021, FDA extended the expiration of thawed, undiluted vials of the Pfizer vaccine from 5 days to 1 month.²¹⁶ This modification made it easier to store the vaccine. In August 2021, the expiration of the Pfizer vaccines was extended, which allowed VHA and other distributors to avoid inventory waste.²¹⁷ VHA held recently expired doses of the Pfizer vaccine while Federal regulators considered an extension of expiration dates for the lots involved.²¹⁸

The J&J vaccine can be stored in normal refrigerator temperatures.²¹⁹

Data Management

According to VHA leadership, VHA and state governments do not have a consistent process for sharing vaccination data because VA is legally prohibited from sharing Veteran identities with the states, hindering VHA from asking states for the vaccination status of individual Veterans.²²⁰ As a result, VHA cannot effectively track which Veterans have been vaccinated by providers other than VHA and recorded by their state government.²²¹ Some individual VISNs had mechanisms for connecting with the states in their jurisdiction to receive Veteran vaccination data from state registries; VHA leadership reported that these VISNs had higher efficiency in their vaccination campaigns.²²²

VHA leaders are working to bolster communication and data exchange with the states. VHA leadership suggested that increased coordination and data-sharing between VHA and the states would provide VHA with a greater understanding of the vaccination status of enrolled Veterans and make it easier for VHA to focus outreach on Veterans who still need assistance scheduling a vaccination.²²³ According to VHA leadership, VA has submitted a proposal for legislative change to 38 United States Code, Section 5701 that, if accepted, will enable VHA to disclose individual Veteran information to state governments for several years to strengthen VHA's vaccination tracking and outreach in support of Veterans.²²⁴

Vaccine Acceptance Among Veterans

In June 2021, VA began sending out weekly surveys to Veterans Using VHA Services—both vaccinated and unvaccinated.²²⁵ To the prompt “I trust VA to deliver the COVID-19 vaccine,” 96.1% of the vaccinated survey participants responded “Agree” or “Strongly agree.” To the same prompt, 39.5% of the unvaccinated survey participants responded “Agree” or “Strongly agree.”²²⁶

In the survey responses from vaccinated Veterans, the answers below were the most common reasons for vaccination:²²⁷

- To prevent themselves from becoming infected with COVID-19 (79.7%)
- To prevent others from getting COVID-19 (54.5%)
- To contribute to the end of the COVID-19 pandemic (41.8%)

When asked what would motivate them to obtain vaccination, over half of unvaccinated respondents selected “other” as one of their top three answers.²²⁸ The

surveys did not include a field for these Veterans to expand on this answer, but VHA is considering doing so.²²⁹

Although the rest of the response choices were selected at lower percentages, these were the next two most common selections for unvaccinated respondents:²³⁰

- To prevent self from falling ill with COVID-19 (21.2%)
- Because they were required to do so (19.9%)

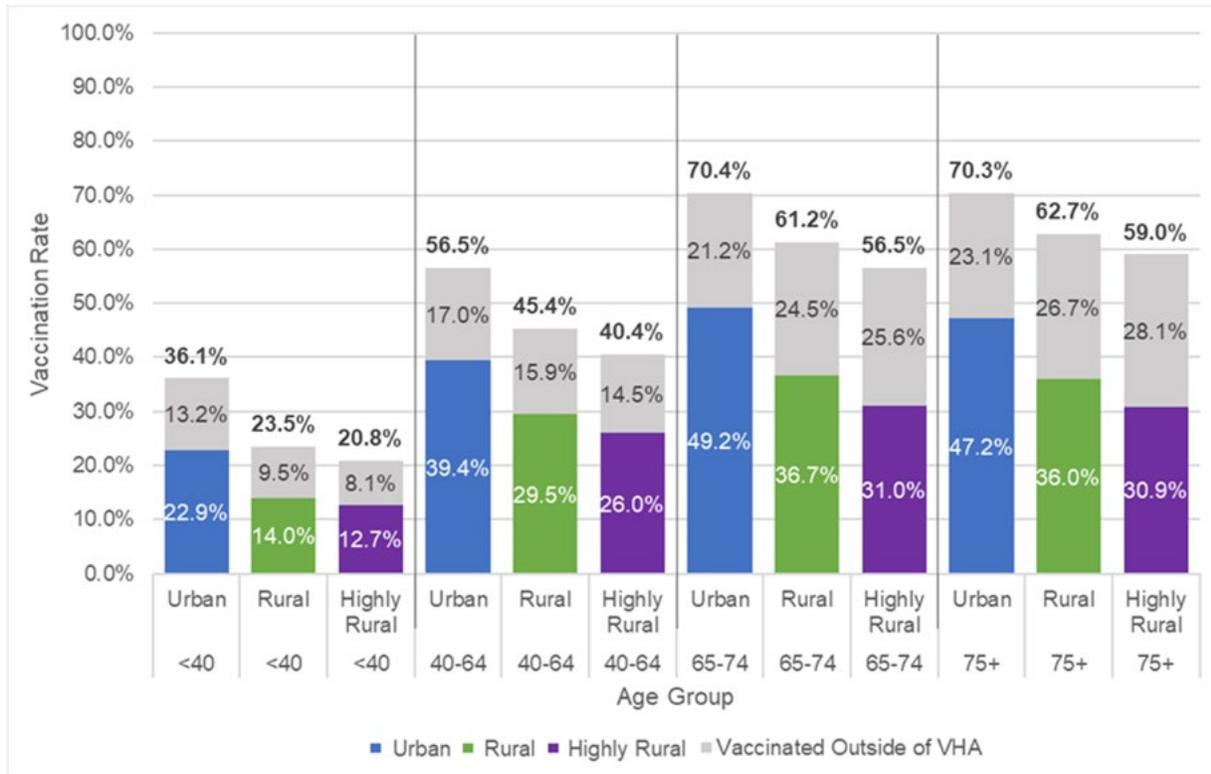
Rural Veterans

As of July 31, 2021, a total of 52.59% of rural Veterans were vaccinated, and 50.38% of highly rural Veterans were vaccinated, compared to 60.11% of urban Veterans.²³¹ These figures are for vaccinations administered by VHA and outside sources to Veterans using VHA Services. According to VHA's Office of Rural Health (ORH), the vaccination rate for the rural Veteran community reached approximately 30-40% at about the same time the urban Veterans reached that rate.²³² However, the vaccination rate continued to rise among the urban Veteran community, but began to plateau among the rural Veteran community.²³³

Figure 5.2 compares Veteran vaccination rates by rurality and age group. The grey shading shows the rates of vaccinations administered outside VHA. In each age group, urban Veterans were vaccinated at higher rates than rural Veterans, followed by highly rural Veterans. In the general U.S. population, vaccination rates among rural populations are also lower than urban populations.²³⁴

To encourage rural Veterans to get vaccinated, VHA's OHE targeted communications for this community.²³⁵ ORH is continuing to study why the vaccination rate remains low and share its research with VHA.²³⁶ VHA continues to use this research to plan outreach to this community.

Figure 5.2: Veterans Using VHA Services, Vaccinations by Rurality and Age Group (December 14, 2020 – July 31, 2021)



Source: VHA, CDW Database, Vaccination data from VSSC, accessed 9/29/2021.

Note: Vaccinations include those administered by VHA and self-reported vaccinations administered outside VHA. Veteran vaccination counts are for Veterans Using VHA Services who have received at least one vaccination dose as of 7/31/2021. Veteran population are Veterans who have received care through a VA facility in the past 12 months. Vaccination numbers may change depending on when the data is accessed because VHA may retroactively update Veterans' vaccination status.

Rurality is based on the Rural Urban Commuting Area system, which consists of 33 tiers. VHA further consolidates the tiers into: Urban, Rural, Insular Islands, Highly Rural and Unknown. Highly Rural is defined as a sparsely populated census tract with less than 10% of the working population commuting to an urbanized cluster community. Urban is defined as at least 30% of the population residing in an urbanized area as defined by the Census Bureau. Insular Islands include the U.S. Virgin Islands, Guam, American Samoa and the Northern Mariana Islands. Rural is defined as all other land areas.

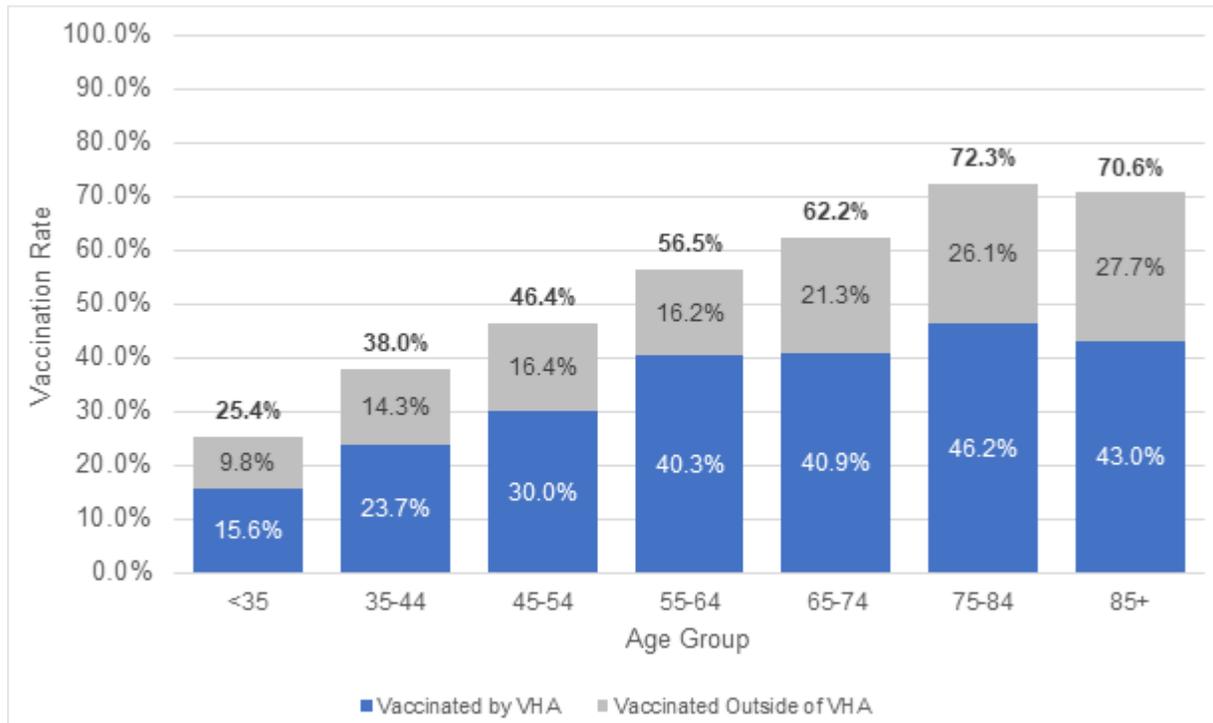
Young Veterans

COVID-19 causes less severe illness in younger people than older ones. Similar to younger adults from the general U.S. population, Veterans under 45 are less likely to get vaccinated than Veterans 45 and older, as shown in **Figure 5.3**.²³⁷

When comparing sub-populations such as location (for instance, urban or rural), race and ethnicity, younger Veterans in each of those sub-populations have lower

vaccination rates. These comparisons are discussed further in the Health Equity section.

Figure 5.3: Veterans Using VHA Services Vaccination Rate by Age Groups, December 14, 2020 – July 31, 2021



Source: VHA, VSSC, CDW Database, accessed 10/1/2021.

Note: Veterans Using VHA Services are Veterans who used VHA services from April 1, 2019, to September 30, 2020. Veterans who died prior to February 1, 2020, were excluded from the definition of Veterans Using VHA Services for this report in order to quantify Veterans at risk for COVID-19. Vaccinations include those administered by VA and self-reported vaccinations administered outside VA. Veteran vaccinations counts are for Veterans Using VHA Services who have received at least one vaccination dose as of 7/31/2021. Vaccination numbers may change depending on when the data is accessed because VHA may retroactively update Veterans' vaccination status.

Vaccination within the VA Workforce

In May 2021, VHA began planning to issue a vaccine mandate for its staff in the interest of the safety of Veterans and staff.²³⁸ According to VHA's National Center for Health Promotion and Disease Prevention (NCP), this was because some VHA staff members remained hesitant about vaccination, and some thought the vaccine was experimental because it had still not been approved by FDA.²³⁹ NCP communicated to VHA staff that the vaccines were under EUA, which meant that they were not experimental and had passed all three phases of trial before granted authorization.²⁴⁰ NCP still received concerns about this.²⁴¹ However, NCP also stated

that the office received more concerns from staff about the lack of a COVID-19 vaccination mandate.²⁴²

Mandate planning included updating occupational health systems to enable tracking of employee vaccinations.²⁴³ NCP engaged in communications and briefings to discuss issuing the mandate under vaccine EUA versus full approval and to enable the technical infrastructure to meet the reporting needs.²⁴⁴

VHA's NCP prepared directives and the Office of Occupational Safety and Health (OSH) drafted policy to have ready for release when the vaccines received full FDA approval for consideration.²⁴⁵ With the Delta variant's appearance, additional outbreaks occurred in VHA's hospitals, including deaths among unvaccinated staff members.²⁴⁶ According to NCP, the initial plan before the rise of the Delta variant was to determine if vaccination should be mandatory when vaccine approval was granted.²⁴⁷ The employee vaccination tracking system was available in June 2021. After learning in June that the mandate would be issued earlier than planned, OSH worked to stand up the requirements called for in the mandate's directive.²⁴⁸

On July 26, 2021, the VA Secretary mandated that all VA health care staff must be vaccinated—the first major COVID-19 mandate of this kind in the United States by a Federal government organization.²⁴⁹ In accordance with Title 38, all VA health care personnel had to be vaccinated, including VHA employees who worked in or visited VHA's facilities or provided care to those who VA serves.²⁵⁰ This list included physicians, dentists, podiatrists, optometrists, registered nurses, physician assistants, expanded-function dental auxiliaries and chiropractors.²⁵¹

According to OSH leadership, the mandate could be issued only for certain health care workers until the vaccines received full FDA approval.²⁵² The mandate stated that each employee would have eight weeks to become fully vaccinated.²⁵³ The VHA directive for this was released on July 27, 2021.²⁵⁴ VHA leadership shared that in July 2021, roughly one-third of its health care staff were not vaccinated.²⁵⁵ However, this estimate is likely low because VHA experienced challenges in obtaining timely data on vaccinations for employees administered outside VHA.²⁵⁶

OSH also noted that VHA personnel can claim medical or religious exemptions for the COVID-19 vaccine, as they could with VHA's mandated annual influenza vaccine.²⁵⁷ Personnel claiming medical or religious exemptions are subject to periodic testing and masking requirements.²⁵⁸ As of the end of the Annex B Period, the data was not yet available to determine the impact of the vaccination mandate on

the number of additional employees vaccinated or the number who claimed medical or religious exemptions. VHA leadership noted it would be reviewing that data along with employees who did not comply with the mandate and the rates of religious and medical exemptions compared to the flu vaccine and determine the next steps.²⁵⁹

On July 29, 2021, just a few days after VA announced its employee vaccination mandate, the White House issued a similar Federal mandate to increase vaccination, requiring Federal employees to attest to being fully vaccinated or face weekly testing.²⁶⁰

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ELDER CARE

COVID-19 has had a disproportionately high impact on elderly people. As a group, people over 75 have experienced a higher rate of COVID-19 complications and death when compared with the overall population. Death from COVID-19 in the United States prior to vaccine availability was strongly associated with age 75 or older and associated with residence in a congregate living facility.²⁶¹ From January 1, 2021, to July 31, 2021, VHA continued to monitor, evaluate and adjust requirements to protect elderly Veterans from exposure to COVID-19.²⁶²

These are some of the key elements that VHA uses to protect elderly Veterans:

- **An integrated health care system:** VHA's integrated health care system provides coordinated health and support services to elderly Veterans with continuity, including elderly Veterans residing in CLCs. Throughout the pandemic, infection control and infectious disease professionals have provided expertise and timely guidelines to protect elderly Veterans.²⁶³
- **Telehealth and remote services:** Expansion of telehealth capabilities for home health care has increased interactions between elderly Veterans and clinical teams while reducing the risk of community exposure to COVID-19.²⁶⁴
- **Vaccination:** Priority vaccination for elderly and high-risk Veterans—as well as home health care staff and caregivers of Veterans—has decreased the risk to older Veterans.²⁶⁵

VHA COVID-19 Data for Elderly Veterans

From March 1, 2020, to July 31, 2021, a total of 256,333 Veterans Using VHA Services were diagnosed with COVID-19.²⁶⁶ The rate for COVID-19 cases among Veterans aged 65 was 36 per 1,000 people, and the rate for Veterans aged 64 and below was 44 per 1,000 people.²⁶⁷

Veteran COVID-19-associated deaths during the Annex B Period totaled 12,830; the majority were 65 and older.²⁶⁸ Veterans 65 and over accounted for 11,523 (90%) of the deaths, whereas only 1,307 (10%) were 64 and under.²⁶⁹

There are 100 CLCs and 158 SVHs across the United States, all of which serve Veterans over 65.²⁷⁰ Both CLCs and SVHs are nursing homes that provide skilled nursing and medical care; some SVHs also provide domiciliary or adult day care center services.²⁷¹

Veterans are eligible for CLCs if they meet certain eligibility criteria, such as service-connected status, level of disability and income. Each state determines eligibility for its SVHs. Typically, family members of Veterans and gold-star parents may also reside in SVHs, if eligible.²⁷² SVHs, as described later in this section, are owned and operated by states.²⁷³ During the Annex B Period, VHA augmented public reporting on COVID-19 cases and deaths at SVHs.

During this time period, VHA continuously responded to changes in the outbreak to combat COVID-19 infection rates within the CLCs, SVHs and home environments for elderly Veterans.²⁷⁴ VHA has remained flexible, using its integrated health system to coordinate infection control practices, monitor facility and community infection rates, monitor staff and resident vaccination levels and adjust visitation and admissions as necessary.²⁷⁵



The Nation's oldest living WWII Veteran (111 years old) received his first dose of the vaccine at the Southeast Louisiana Veterans Health Care System in New Orleans. (Photo credit: VHA)

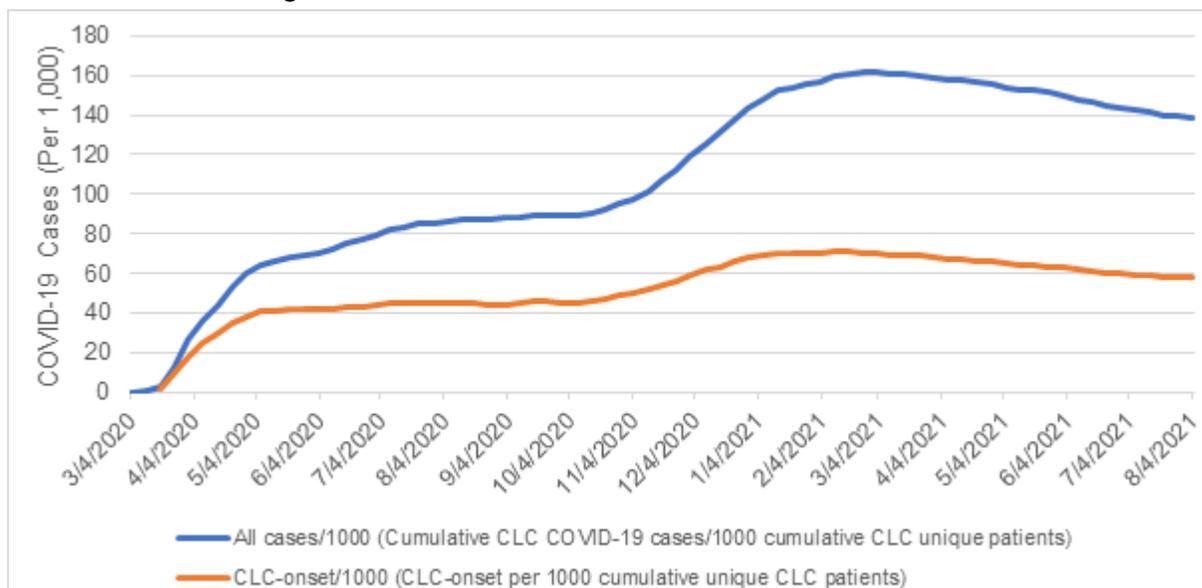
Community Living Centers

CLCs are skilled nursing homes owned and operated by VHA.²⁷⁶ CLCs are used for both short-stay services or long-stay services for the Veteran community.²⁷⁷

VHA has recorded 4,770 COVID-19 cases in CLCs, of which VHA determined that 1,958 COVID-19 cases (41%) were acquired at a CLC, based on the timing of the positive test in relation to the Veteran's residence in the CLC.²⁷⁸ This subset of cases is referred to as CLC Onset Cases.

Figure 6.1 shows the rate of COVID-19 cases per 1,000 for all CLC cases and the rate for CLC cases with the onset at the CLC.²⁷⁹ **Figure 6.2** shows the rise and fall of all CLC COVID-19 cases and deaths per month for Veterans.²⁸⁰

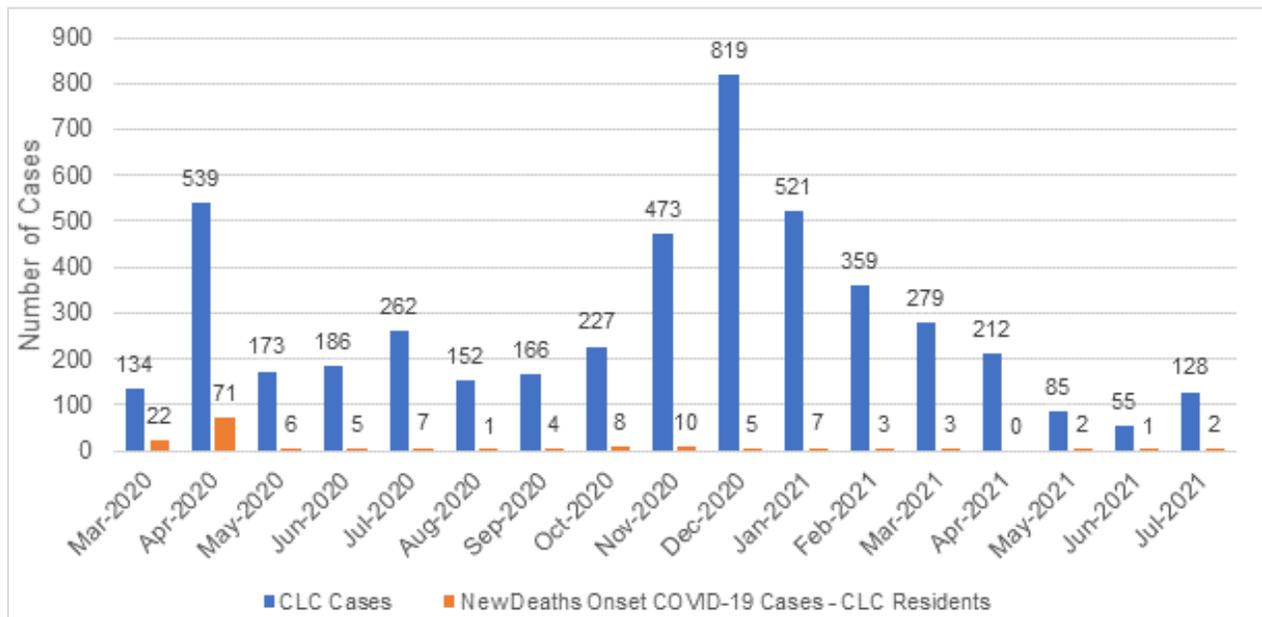
Figure 6.1: All CLC COVID-19 Cases vs. CLC Onset COVID-19 Cases per 1,000
March 4, 2020 – August 4, 2021



Source: VHA, NST Database, CLC and CLC Onset Positive Cases, accessed 9/9/2021.

Note: VHA determined that CLC COVID-19 Onset Cases were likely acquired at a CLC, based on the timing of the positive test in relation to the Veteran's residence in the CLC.

Figure 6.2: Positive COVID-19 Cases and Deaths in CLCs (March 2020 – July 2021)



Source: VHA, NST Database, accessed 9/28/2021.

State Veterans Homes

SVHs are nursing homes that care for disabled, elderly or ailing Veterans and are owned, operated, managed and financed by the states.²⁸¹ SVHs are not open to the public, but some family members of Veterans are accommodated.²⁸² There are SVHs in every state, Washington, D.C. and Puerto Rico.²⁸³ Although established by states, SVHs are eligible to receive Federal funding if they have been formally recognized by VA Under Secretary for Health.²⁸⁴ The Federal funding covers a percentage of nurse and retention costs, construction costs and per diem payments.

Except as specifically provided by the state or regulations, VA employees have no authority regarding the management or control of SVHs.²⁸⁵ SVHs are surveyed annually, including surveys by VA, for compliance with regulations, which are required in order to continue to receive per diem payments.²⁸⁶

During the pandemic, leadership of VHA's Office of Geriatrics and Extended Care (GEC) observed that some local VAMCs, field leaders and SVHs created stronger working relationships, becoming more collaborative. VHA provided advice, resources and education for SVHs.²⁸⁷ VHA also supported SVHs through additional funding in which facilities had discretion as to how they were used.²⁸⁸ In March 2021, VA announced it would provide \$1 billion in grants to aid SVHs during the COVID-19

pandemic, which was funded from the American Rescue Plan Act of 2021 and Coronavirus Aid, Relief, and Economic Security Act (the CARES Act).²⁸⁹ Funding could be used for SVH construction or renovation, operating needs and modifications to facilities to prevent, prepare and respond to COVID-19.²⁹⁰ Examples of funding use included providing support staffing and installing ultraviolet filters, air circulators and ante-rooms for storing personal protective equipment (PPE).²⁹¹ These facility improvements aim to enable SVHs to be better prepared in the future.²⁹²

Responding to the Veterans Health Care and Benefits Improvement Act, VHA created a COVID-19 Oversight Dashboard and COVID-19 Weekly Reporting.²⁹³ The Dashboard is designed to help VHA track and monitor COVID-19 in Skilled Nursing Facilities and Domiciliaries at the SVHs.²⁹⁴

The Dashboard displays data about residents and staff COVID-19 cases and deaths, as well as data about supplies and resources, including PPE, testing supplies and staff.²⁹⁵ Every week, SVHs self-report COVID-19-related information to VA and the National Healthcare Safety Network (NHSN) of CDC.²⁹⁶

Table 6.1 reflects CDC data totals for the reporting SVHs from May 2020 through August 1, 2021, which are also publicly reported on VA’s website.²⁹⁷

Table 6.1: State Veterans Homes COVID-19 Infections and Deaths May 2020 – August 1, 2021

	Total Infected with COVID 19	Total Deaths
SVH Resident	9,162	1,213
SVH Staff	7,354	45
Source: VHA GEC, response to email, 9/9/2021.		

Prevention

Early in the pandemic VHA identified that the best way to prevent elderly Veteran infections from COVID-19 was to prevent exposure.²⁹⁸

VHA enlisted several critical approaches to prevent exposure, including:²⁹⁹

- Coordination of multi-disciplinary care
- Establishment of guidelines to protect Veterans and staff
- Expansion of telehealth capabilities to reduce in-person exposure
- Targeting high-risk Veterans and caregivers for priority vaccination

Prevention Measures in CLCs/Facility Regulations for Visitation

Each CLC consults directly with infection control and infectious disease professionals.³⁰⁰ Building these relationships at the local level allows CLCs to coordinate and create facility-specific guidelines to protect the residents and staff.³⁰¹

Early in the pandemic, VHA instituted restrictions for intermingling of residents and staff and limited visitation to CLCs.³⁰² VHA also used cohorting—grouping positive or presumed positive residents with consistent staff into a specific area.³⁰³ This practice was designed to limit the number of people exposed to each Veteran, thereby reducing the risk of infection.³⁰⁴

Each facility has the ability to adjust the rules on visitation and intermingling of residents in their facility using a three-pronged approach, which included working with the following:³⁰⁵

- Infection control practices
- Information surrounding infection rates
- Vaccination levels of residents and staff

The same process is used when considering the admission of residents to a facility.³⁰⁶

During the Annex B Period, the Delta variant spread widely across the country. In response, VHA used the three-pronged approach referenced above to determine visitation, admissions and movement of residents.³⁰⁷

At-Home Considerations and Telehealth

Before the pandemic, VHA had already made plans to expand telehealth options for home-based Veterans. When COVID-19 began to spread broadly, VHA pushed forward with telehealth to limit exposure of Veterans to the disease.³⁰⁸ Home-based primary care saw an almost 2,500% increase in usage throughout the pandemic; home-based Veterans were one of the biggest groups of users for telehealth.³⁰⁹

Telehealth enabled home-based staff, Veterans and family caregivers to keep in contact, continue with appointments and avoid disruptions in care.³¹⁰ Using telehealth technologies also allowed Veterans to continue social interactions, which was particularly important during a time of limited in-person interactions.³¹¹

Challenges did arise with the increase in telehealth. Some older Veterans struggled with the technology, which made it more difficult to reach them.³¹² Some Veterans did not have access to wireless services in their area.³¹³ Providing equipment and training on technologies was sometimes difficult.³¹⁴

VHA was able to address these challenges by using the Office of Connected Care (OCC) to provide equipment and training. External vendors supported texting and the use of tablets between Veterans and home health staff. VHA worked with local resources to boost internet signals in certain areas.³¹⁵ Despite all efforts, sometimes telephone visits were the best option.³¹⁶

During the vaccine roll out, home-based primary care staff and caregivers were able to get vaccinated along with their Veterans. VHA also provided the caregivers with PPE through the mail.³¹⁷

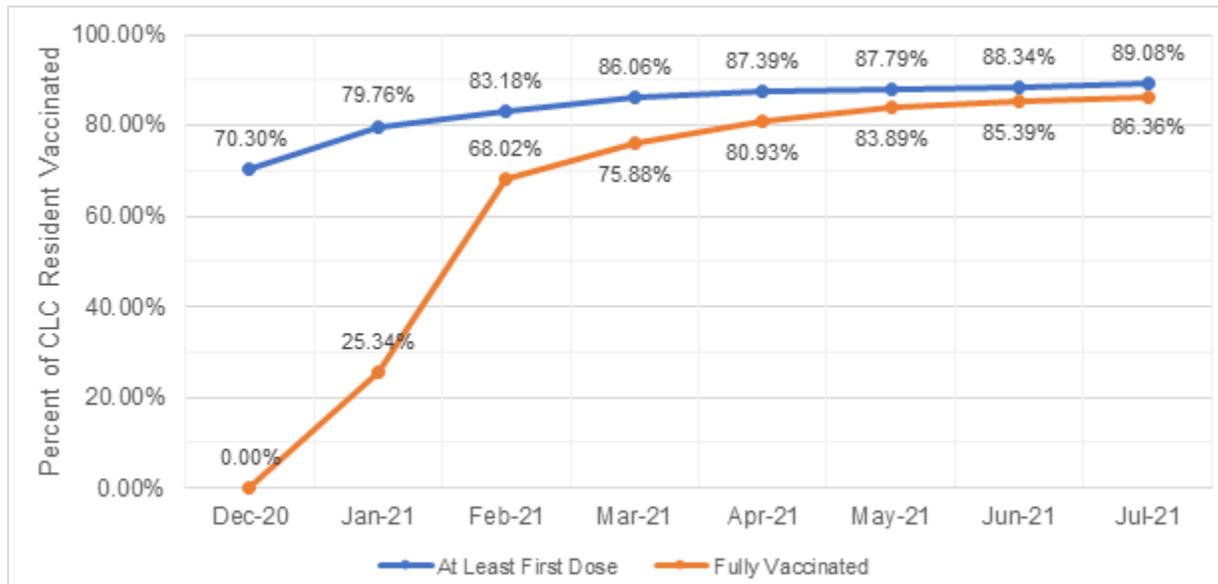
Screening Tests

In April 2021, VHA provided guidance to implement population-based testing. This applied not only to Veterans, but also to patients received under a FEMA Mission Assignment and employees working in CLCs and SCI/D units.³¹⁸ This guidance provided monitoring of employees and residents in CLC and SCI/D facilities to better protect against the spread of COVID-19 infections.³¹⁹

Vaccinations for CLC Residents

As vaccines became available, certain groups of elderly Veterans received priority. The first to receive the vaccine were those with elevated risk of severe illness, including the oldest and those most frail with comorbidities. These individuals resided largely in CLCs. Younger age groups with comorbidities were vaccinated next—generally, the individuals in the home health care community.³²⁰ Figure **6.3** shows the CLC resident vaccination rates since December 2020.³²¹ At the end of July 2021, CLCs reported that 86.4% of their residents were fully vaccinated.³²²

Figure 6.3: Vaccination Rates for CLC Residents (December 2020 – July 2021)



Source: VHA, NST Database, CLC Moving Forward Dashboard, accessed 9/13/2021.

Note: Each datapoint is the period's snapshot of the current CLC residents and the percent vaccinated.

HEALTH EQUITY IN THE VETERAN POPULATION

From January 1, 2021, to July 31, 2021, the VHA OHE continued to work to eliminate health disparities and bring equitable health care to Veterans.³²³ This section focuses on the following distinct groups:

- POC Veterans
- LGBTQ+ Veterans
- Rural Veterans

From January 1, 2021, through July 31, 2021, OHE applied strategies as reported in the Initial Report and Annex A; however, some new challenges arose during this time period that were largely focused on pursuing vaccine acceptance across the spectrum of Veterans.

Veteran Communities of Color

From January 1, 2021, to July 31, 2021, some groups of Veteran Communities of Color continued to be more likely to be infected with COVID-19. For instance, OHE noted that the Hispanic Veteran community was disproportionately impacted by the Delta variant during this time period.³²⁴

OHE leadership suggested that because Hispanic Veterans tend to be younger than other Veterans, they may be more likely to live with children who are not yet eligible to be vaccinated and may be exposed to COVID-19 in school.³²⁵ In addition, many Hispanic Veterans live in places where the Delta variant was prevalent. States like Florida and Texas experienced surges in COVID-19 cases in July 2021, which further increased the risk of exposure for Hispanic Veterans.³²⁶

Vaccine Acceptance from VHA's Communities of Color

At the end of 2020, VHA had predicted higher vaccine hesitancy among POC Veterans compared to White Veterans, based on responses from focus groups conducted in 2020. The groups indicated to OHE that many POC Veterans faced barriers to knowledge about the virus.³²⁷ VHA anticipated vaccine hesitancy due, in part, to unethical medical testing conducted on minorities in the past.³²⁸

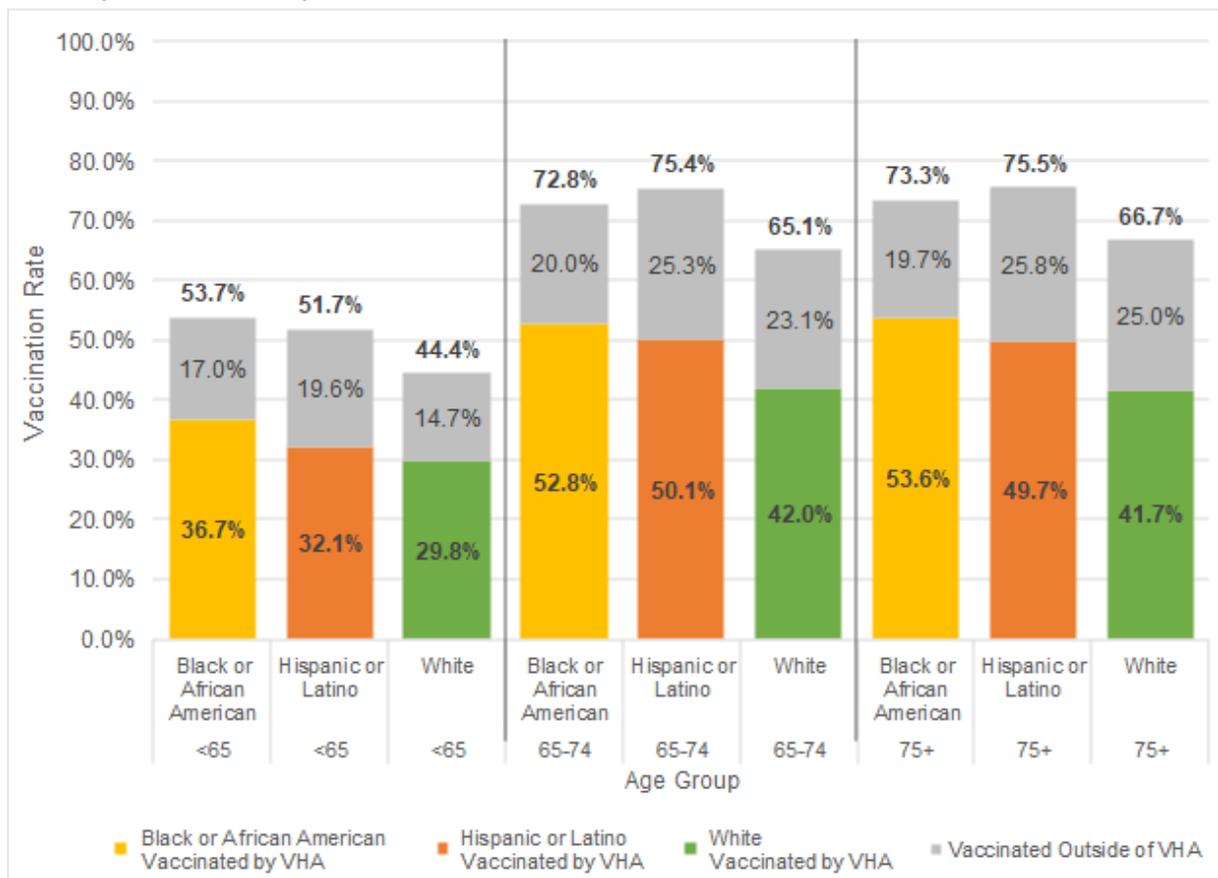
Believing that this hesitancy might impact POC Veterans and their willingness to obtain the COVID-19 vaccine, VHA began to promote vaccination with Veterans through targeted messaging and outreach from minority leaders in VHA.³²⁹ According to VHA leadership, this work continued into 2021.³³⁰ VHA called POC

Veterans directly to let them know they were eligible for the vaccine, encouraging vaccination and scheduling appointments.³³¹

From January 1, 2021, to July 31, 2021, POC Veterans were vaccinated at a higher rate than White Veterans, as shown in **Figure 7.1**, which shows the vaccination rates of Black, Hispanic and White Veterans.³³²

In the general population of the United States, White people were vaccinated at a higher rate than POCs during this same timeframe.³³³ **Figure 7.1** also shows that the vaccination rate across these three groups remains higher for POC Veterans. The gray indicates vaccinations administered outside of VHA.

Figure 7.1: Veteran Vaccination Rate by Age Groups and Race and Ethnicity, January 1, 2021 - July 31, 2021



Source: Vaccination data from VSSC, CDW Database, VHA, accessed 9/28/2021.

Note: Vaccinations include those administered by the VHA and self-reported vaccinations administered outside of the VHA. Veteran vaccinations counts are for Veterans Using VHA Services who have received at least one vaccination dose as of 7/31/2021. Vaccination numbers may change depending on when the data is accessed as VHA may retroactively update Veterans vaccination status. Veteran using Veteran Services population are Veterans that have received care through a VA facility in the past 12 months. Totals may not add due to rounding.

LGBTQ+ Community

Throughout the Annex B Period, VHA continued to work to build trust with the LGBTQ+ Veteran community. The VA Secretary has ordered a review of VA policies to prevent LGBTQ+ Veterans and employees from facing discrimination based on sexual orientation, gender identity or expression.³³⁴ For instance, the first employee research group for LGBTQ+ employees was established to look into the needs of this community.³³⁵

All VAMCs have LGBTQ+ Veteran Care Coordinators (VCCs), who work with staff to ensure that the health needs of LGBTQ+ Veterans are met and that VHA's services are equitable.³³⁶ According to OHE, an increasing number of VAMCs are being recognized by the Human Rights Campaign as Leaders and Top Performers in LGBTQ+ Healthcare Equality.³³⁷

LGB Chartbook

OHE has developed an LGB chartbook to examine the health of lesbian, gay, and bisexual (LGB) Veterans. Transgender Veterans are not included in the chartbook because trans identity is not one of the areas being tracked at this time.³³⁸

This chartbook introduces VA's plan to building a more inclusive culture through a review of and upgrade to its policies.³³⁹ The chartbook then works to provide information on the health status of LGB Veterans to help identify where health disparities exist so they can be addressed.³⁴⁰ VHA believes that the information presented in this chartbook and the VA-wide policy review could vastly improve the lives of LGB Veterans who typically report having worse self-reported health compared to other Veterans and LGB non-Veterans.³⁴¹

VHA also believes there is still much work to be done to support LGBTQ+ Veterans.³⁴² According to VA survey data, the majority of LGBTQ+ Veterans reported that VA could do more to support their community.³⁴³

Due to the lack of data available on LGBTQ+ Veterans, the chartbook initially included non-Veterans and used non-VA data.³⁴⁴ Actual information on LGBTQ+ Veterans remains limited because VA does not actively track data on this community.³⁴⁵ According to OHE leadership, there are existing data fields to track this data, but they have not been actively collected and analyzed yet.³⁴⁶ VHA plans to start tracking data on its LGBTQ+ Veteran community in 2022.³⁴⁷ To execute this, additional staffing and resources have already been requested.³⁴⁸

Rural Veteran Community

The rural Veteran community relies more heavily on VA than the urban Veteran community. According to the VHA ORH, approximately 57% of rural Veterans are enrolled in VA, compared with about 40% of urban Veterans.³⁴⁹

VHA leadership reported that this gap may be related to scarcity of other resources in rural areas, along with cultural differences.³⁵⁰ Rural Veterans are more likely to have a sole provider for care, whereas urban Veterans may move between providers.³⁵¹

During the Annex B Period, VHA worked to provide quality care to its rural Veteran community. VHA used mobile units to deliver vaccines, planes to ensure that rural Veterans had access to the resources they needed and virtual care to provide medical support.³⁵²



VA delivered doses of COVID-19 vaccine to 240 Veterans in rural Montana as part of a pilot program to bring vaccines to Veterans living in remote areas. (Photo credit: VHA)

COVID-19 in Rural Environments

From January 1, 2021, to July 31, 2021, people living in rural communities were at a greater risk of COVID-19 infection because they were less likely to wear masks.³⁵³ As described in the Vaccinations section, rural Veterans have been vaccinated at lower rates than urban Veterans.³⁵⁴

As a result of these risks, outbreaks in rural communities continued to occur in April and May.³⁵⁵ In response to these outbreaks, CDC and VHA distributed targeted communications to provide vaccine information.³⁵⁶ OHE released its first COVID-19 alert for rural Veterans in April 2020.³⁵⁷

VHA worked with rural communities to provide vaccination through its use of mobile units and remote delivery.³⁵⁸ Additionally, VHA worked with the Indian Health Service to coordinate delivery to Native American/American Indian Veterans residing in rural areas.³⁵⁹ According to VHA leadership, VHA also conducted special missions to transport vaccines directly to disabled and isolated Veterans in rural areas.³⁶⁰

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MENTAL HEALTH

During the Annex B Period, VHA implemented new processes of care to increase access and reduce barriers to mental health services. VHA also developed new clinical decision-making resources and tools across mental health services.

In May 2021, the Government Accountability Office (GAO) projected a 32% increase in demand for VHA outpatient mental health services over the next 10 years.³⁶¹ Recognizing that patient needs will increase, VHA has hired more personnel and engaged in forecast modeling to project future staffing needs.³⁶²

VHA forecasts an increased need for staffing to support the transition to the new three-digit 988 VCL call number.³⁶³ VHA is adding 460 new VCL staff positions during this period and will continue to increase staffing based on forecasting models through the 988 implementation in July 2022.³⁶⁴

Suicide Prevention

Suicide prevention is one of VA's highest clinical priorities and requires a coordinated public health response beyond the traditional medical model of disease prevention, involving both community prevention and clinically based intervention strategies in order to reach all Veterans.³⁶⁵

A public health approach to suicide prevention should be:³⁶⁶

- Population-based
- Interdisciplinary
- Focused on reducing suicidal thoughts and behaviors for everyone, not just those who are already suffering from suicidal ideation
- Aimed at reducing suicide risk factors and increasing protections for vulnerable groups

In line with this approach, VA has developed a 10-year National Strategy for Preventing Veteran Suicide (National Strategy).³⁶⁷ VA's National Strategy identifies priorities, goals and activities across all sectors to promote wellness, increase protection and reduce suicide risk.³⁶⁸ VA has prioritized annual suicide prevention for all employees that is tailored toward their job responsibilities.³⁶⁹ One of the key priorities is to increase the timeliness and usefulness of surveillance data on indicators of Veterans' suicide.³⁷⁰

Data Surveillance

Ongoing VA suicide surveillance includes an annual assessment of Veteran suicide mortality. In collaboration with the Department of Defense (DoD), VA searches national death certificate data compiled by the CDC National Death Index.³⁷¹

CDC processes include close coordination with state Vital Statistics Offices and review of death certificate data. As of Annex B, mortality data for 2020 had not been finalized. The most recent VA report on Veteran suicide presents comprehensive information on Veteran suicide mortality through 2019.³⁷²

In addition, the VA's "2021 National Veteran Suicide Prevention Annual Report" includes more real-time information on VHA indicators of suicide-related behavior.³⁷³

Ongoing VA surveillance of VHA indicators includes information from the following:³⁷⁴

- Local suicide prevention coordinators
- Emergency department data
- High risk flags
- On-campus events
- All-Cause Mortality
- Non-fatal suicide attempts

The VHA Office of Mental Health and Suicide Prevention (OMHSP) routinely tracks these internal indicators at VISN and VAMC levels. The data is then provided monthly to regional or VISN chief mental health officers.³⁷⁵ OMHSP works with VAMC mental health officers to create mitigation strategies when needed.³⁷⁶

Over the course of the Annex B Period, OMHSP observed no increase in suicide-related documentation across these internal monitors and no increase in the number of suicides.³⁷⁷ OMHSP leadership noted, however, that there are limitations in this internal data; the data looks only at Veterans in VHA care, compared to VA's comprehensive annual report.³⁷⁸

In a recent population-based prospective cohort study, the rate of suicidal ideation in Veteran cohorts decreased at the population level nearly 10 months into the pandemic.³⁷⁹ However, Veterans infected with COVID-19 were more than twice as likely to report suicidal ideation.³⁸⁰ Given the potential link between COVID-19 infection and suicide, VHA implemented a series of predictive analytic tools to drive clinical interventions relative to suicide prevention during COVID-19.³⁸¹

Suicide Prevention Population Risk Identification and Tracking for Exigencies

The Suicide Prevention Population Risk Identification and Tracking for Exigencies (SPPRITE) tool is used to identify and track Veterans with suicide risk.³⁸² SPPRITE collates a variety of risk indicators aggregated from a Veteran's electronic health record and other VHA predictive model dashboards.³⁸³ Clinicians use the dashboard to track patients with suicide risk.³⁸⁴

During the Annex B Period, VHA integrated COVID-19 positive tests into the SPPRITE dashboard to identify and provide increased support for Veterans with recent COVID-19 diagnoses who were also at high risk for suicide.³⁸⁵ VHA collected both metrics through the SPPRITE dashboard beginning in January 2020.

Recovery Engagement and Coordination for Health–Veterans Enhanced Treatment

The REACH VET clinical program uses a predictive analytics algorithm to identify VA patients with the highest statistical risk (0.1%) of suicide.³⁸⁶ This incorporates a variety of data elements to identify these Veterans—including demographics, use of VA services and prescription medications.³⁸⁷ VHA providers use REACH VET to identify Veterans who need outreach and care enhancements.³⁸⁸

Universal, Selective and Indicated Initiatives

As part of the National Strategy, VA's surveillance efforts incorporate data about Veterans and Veteran suicide to inform prevention initiatives matched to a Veteran's level of risk.³⁸⁹ The National Strategy includes two levels of suicide intervention:³⁹⁰

- **Universal Initiatives:** high-level suicide prevention initiatives for all Veterans
- **Selective and Indicated Initiatives:** programs designed for groups or individuals at high risk of suicide

Universal Initiatives

Universal initiatives focus on preventing suicidal thoughts or actions by all Veterans. These broad programs are designed to increase mental health awareness for Veteran care before ideation begins. During this report period, VHA expanded national communication outreach efforts through a series of targeted paid media campaigns like the ones detailed below.

Lethal Means Safety

Lethal Means Safety (LMS) is an intentional, voluntary practice that reduces suicide risk by limiting access to lethal means. Promoting LMS is an evidence-based component of a comprehensive suicide prevention strategy.³⁹¹ Creating distance between lethal means and a person with suicidal intent can increase the chances of survival for that individual and save lives.³⁹²

Approximately 70% of Veteran suicides involve firearms. LMS initiatives aim to reduce suicide risk by increasing the time and space between an object that can cause self-harm—including any type of firearm—and someone who is going through a suicidal crisis.³⁹³ VHA has emphasized providing LMS training and materials to all VHA health care providers, including Vet Center staff, Mental Health and Primary Care providers.³⁹⁴

Be There Campaign

Be There is a VA paid media campaign that encourages family members and community leaders to be there for Veterans in times of need.³⁹⁵ The campaign provides training and information to help recognize signs that a Veteran may be at risk for suicide.³⁹⁶ The campaign communicates that everyone plays a role in preventing suicide and encourages family members to share Be There resources with someone in their life.³⁹⁷

Selective and Indicated Initiatives

Selective and Indicated Initiatives target Veterans at increased and elevated risk of suicide. During this period, VHA relied heavily on surveillance tools to help inform clinical decision-making regarding suicidality. In February 2021, 99% of greatest-risk Veterans (as identified by REACH VET) had their care reviewed by a VHA provider. This was an increase from March 2020 when 91% had their cases reviewed. Similarly, outreach attempts to those Veterans to collaboratively review their care rose from 89% in January 2020 to 98% in February 2021. In June 2021, VHA used the SPPRITE dashboard to perform attempted outreach to 90% of identified Veterans; 82% of these Veterans received successful and timely outreach.³⁹⁸

VHA was proactive in their approach to implementing outreach, programs and interventions to end suicide.³⁹⁹ For example, VHA expanded TeleMental Healthcare services to provide remote mental health services to support Veterans.⁴⁰⁰ VHA also released the COVID Coach mobile app to help support Veteran self-care, stress

management and overall wellbeing.⁴⁰¹ The app has been downloaded more than 135,000 times.⁴⁰²

Expanded 988/Veterans Crisis Line Efforts

The VCL is a confidential support that connects Veterans in crisis with specially trained and experienced responders.⁴⁰³ During the Annex B Period, VHA opened 460 new VCL staff positions in preparation to support the transition to the new three-digit 988 VCL call number; VHA is currently hiring into these positions.⁴⁰⁴ Implementation efforts also include expanding efforts to modernize technology, developing a targeted communications approach and completing process improvement initiatives.⁴⁰⁵

The transition to 988 provides a 3-digit code that is easy to remember to help suicide prevention efforts by easing access to critical services and reducing the stigma around suicide.⁴⁰⁶

VHA staff forecasting predicts significant increases to VCL call volume when the 988 transition is complete in 2022.⁴⁰⁷ VHA is working to expand the entire infrastructure of the crisis line beyond its three physical sites to allow for remote operation across the Nation. VHA is currently working to increase the VHA organizational chart to be ready to field calls.⁴⁰⁸

As it continues to grow VCL, VHA launched a Caring Contacts Program that provides follow-up letters to people who have called the crisis line.⁴⁰⁹ Additionally, VHA launched a Peer Support Outreach Center that provides enhanced support for high-risk Veterans who call VCL.⁴¹⁰

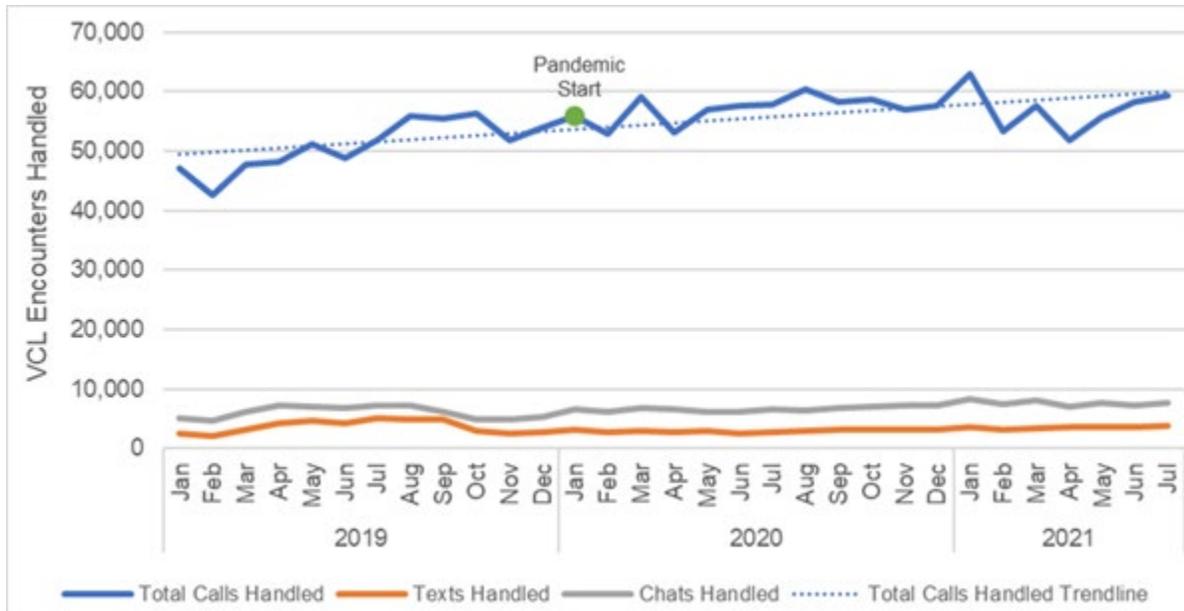
Overall, VCL calls have trended upward from January 2019 through July 2021, as seen in **Figure 8.1**. Monthly call volume did not substantially increase at the start of the pandemic, and the start of the pandemic did not appear to accelerate VCL call trends through July 2021.

The highest amount of VCL monthly calls handled occurred in January 2021, at 60,300 total calls. Since January 2019, VCL call encounters have steadily increased; the average call volume increased from approximately 50,000 monthly encounters to 60,000 since January 2019.

There were no clear trends among text and chat volume per month since January 2020; monthly text volume ranged from 2,576 (June 2020) to 3,896 (July 2021),

while monthly chat volume ranged from 6,229 (February 2020) to 8,267 (January 2021).

Figure 8.1: VCL Encounters by Month (January 1, 2019 – July 31, 2021)



Source: OMHSP, COVID-19 Response Annex B Mental Health Questionnaire Response, 8/19/2021.

Other Related Initiatives

Safety Planning in Emergency Departments

Safety Planning in Emergency Departments (SPED) is an evidence-based intervention that combines safety planning interventions with follow-up phone calls to Veterans after they are discharged from emergency departments.⁴¹¹ The program targets Veterans who were found to be at intermediate, high-chronic or acute risk for suicide.⁴¹²

When SPED protocols are executed in emergency rooms, there is a 45% reduction in suicide-related behaviors six months after the visit.⁴¹³ When the program began in October 2018, 29.0% of Veterans had a provider attempt to complete a Safety Plan with them prior to discharge. By July 2021, this had increased to 86.6%.⁴¹⁴ Since October 2018, there have been 13,229 encounters in which Veterans met criteria for the SPED intervention.⁴¹⁵

Research Initiatives

VHA also enhanced partnerships between suicide prevention and VHA research centers and evaluation centers.⁴¹⁶ For example, the Suicide Prevention Program funded the VISN 19 Rocky Mountain Mental Illness Research Education and Clinical Center to expand work that makes cognitive behavioral therapy for depression available online. This therapy is specifically modified and targeted for Veterans.⁴¹⁷

VHA Homeless Program Office

VHA is aware that mental health, including the increased risk for suicide and homelessness, are tightly associated. With this in mind, OMHSP supported a variety of VHA homelessness initiatives during the Annex B Period.⁴¹⁸ These initiatives included the following:⁴¹⁹

- Coordinating how to provide services when the U.S. national moratorium on evictions expires in August 2021
- Funding grant programs related to Supportive Services for Veteran Families Program (a Veteran homelessness initiative)

Access to Care

Through this report period, VA worked to increase access to mental health care through activities like the ones detailed below.

Primary Care/Mental Health Integration (PC-MHI)

Enhancing access to same-day mental health services has been a priority throughout the pandemic.⁴²⁰ VHA's PC-MHI helps improve access to mental health services by embedding mental health staff in primary care clinics.⁴²¹ These mental health practitioners can provide same-day psychological services to Veterans in need of support.⁴²²

Telehealth in Rural Communities

VA's Accessing Telehealth through Local Area Stations (ATLAS) initiative provides access to VA services for Veterans living in rural communities.⁴²³ Rural health care has become a topic of focus for VHA because it works to enhance access for those outside the cities.⁴²⁴

Commander John Scott Hannon Veterans Mental Health Care Improvement Act of 2019

The Hannon Act, which became law in October 2020, focuses on increasing mental health care for Veterans. It includes the following goals:⁴²⁵

- Strengthen the mental health workforce that supports Veterans.
- Enhance access to care for rural Veterans.
- Broaden accessibility for alternative and local treatment options.
- Bolster community-based efforts via a suicide prevention grants program.
- Increase coordination efforts with DoD.
- Expand Veteran suicide prevention research and oversight.
- Improve services for women Veterans.

As part of the Hannon Act, VHA is empowered to further expand telehealth services to underserved communities.⁴²⁶ In January 2021, VHA assembled a large working group to begin the process of bolstering rural support.⁴²⁷

VA Video Connect Group Psychotherapy

VHA has been using video connect virtual technology to assist Veterans in meeting with their providers for group psychotherapy.⁴²⁸ Early in the pandemic, the volume of VCC began to increase, from 4,714 encounters in March 2020 to over 30,000 encounters one month later, as shown in **Figure 8.2**.

An upward trend in monthly encounters continued through October 2020 (94,753 encounters in October). Since January 2021, there were over 100,000 VVC group psychotherapy encounters per month, peaking in March 2021 at 137,017 encounters. Monthly encounters have decreased since April 2021 but have remained above 100,000 per month.

Figure 8.2: VVC Group Psychotherapy Encounters by Month
 January 1, 2020 – July 31, 2021



Source: VHA, COVID-19 Response Annex B Mental Health Questionnaire Response, 8/19/2021.

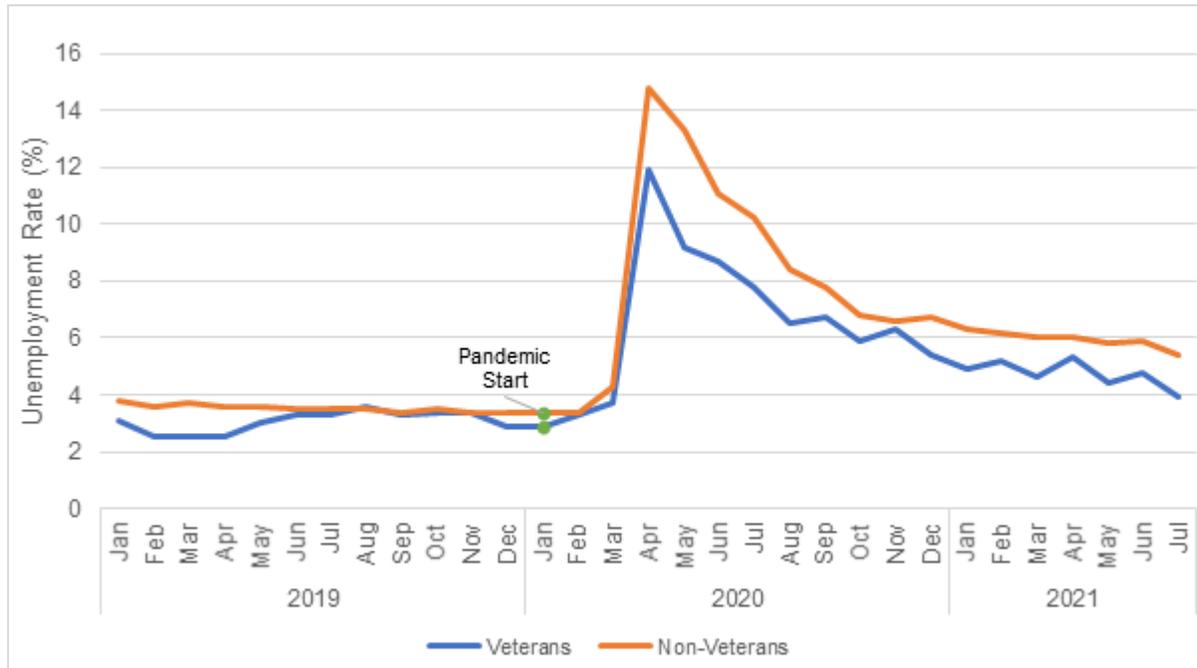
Unemployment among Veterans

Unemployment is a major risk factor for mental illness and suicide.⁴²⁹

Unemployment in the general population increased substantially from March to April 2020, as seen in **Figure 8.3**.

The change in the Veteran unemployment rate was smaller and has remained below the general population rate throughout the pandemic. From January 1, 2021, through July 31, 2021, Veteran unemployment rates decreased from 4.9% to 3.9% while non-Veteran rates decreased from 6.3% to 5.4%.

Figure 8.3: Unemployment Rate Among Veterans and Non-Veterans by Month January 1, 2019 – July 31, 2021



Source: VHA, COVID-19 Response Annex B Mental Health Questionnaire Response, 8/19/2021.

Note: This information is from the Bureau of Labor Statistics and was extracted on 8/11/2021.

VHA Future Plans for Suicide Prevention

The Suicide Prevention 2.0 (SP 2.0) and Now initiatives operationalize the National Strategy through a public health approach to suicide prevention that incorporates community-based prevention and clinically based intervention.⁴³⁰

Community-based prevention strategies include specific initiatives at the state and local community levels, such as partnerships with the Substance Abuse and Mental Health Service Administration and the Governor's Challenge.⁴³¹ Thirty-five states are currently committed to the Governor's Challenge.⁴³² The majority of participating states are planning efforts related to improving care transitions for Veterans.⁴³³ State representatives engage in monthly community of practice calls where they provide guidance and technical assistance to help execute action plans.⁴³⁴

In conjunction with state agencies and policy makers, VHA is partnering with local state leaders to implement comprehensive suicide prevention plans.⁴³⁵ VHA trains the local state leaders in policy and evidence-based interventions that can be used in their local communities, for instance, by establishing suicide risk screening and promoting LMS training.⁴³⁶

VHA is also expanding community-based efforts across all VISNs with community engagement and partnerships.⁴³⁷ The community engagement partners focus on building suicide prevention coalitions and providing outreach and education in the community.⁴³⁸ VA has 157 active community coalitions, including 70 newly formed in Fiscal Year (FY) 2021 across 9 VISNs.⁴³⁹ VHA plans to engage the remaining 9 VISNs by the end of 2022.⁴⁴⁰

The clinical focus of SP 2.0 is on increased access to evidence-based psychotherapies and clinical practice guidelines for suicide prevention, such as cognitive behavioral therapy for suicide prevention, dialectical behavior therapy and problem-solving therapy.⁴⁴¹ VHA has also developed an SP 2.0 clinical telehealth program.⁴⁴² As of July 2021, VHA has hired 51 new providers across 12 VISNs, and most have received training in delivering evidence-based practices.⁴⁴³

VHA partnered with national clinical resource hubs to stand up national telehealth capabilities to deliver remote suicide prevention services to Veterans.⁴⁴⁴ As of the Annex B Period, VA has hired 50 of a planned 100 providers across all facilities who will be trained in these evidence-based treatments for suicide.⁴⁴⁵

Finally, VHA is in year two of the President's Roadmap to Empower Veterans and End a National Tragedy of Suicide (PREVENTS), a nationwide campaign to raise awareness about suicide prevention.⁴⁴⁶ Created in 2019 by Executive Order, PREVENTS is the culmination of expertise from over 150 subject matter experts from more than 15 Federal agencies.⁴⁴⁷

PREVENTS aims to connect Veterans to suicide prevention resources, coordinate research on suicide, engage in community integration and ultimately change the culture of mental health and suicide prevention.⁴⁴⁸

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CLINICAL OPERATIONS

Since January 2021, VHA continued to adjust clinical operations in accordance with the VHA COVID-19 Response Plan. This section describes clinical operations updates from January 1, 2021, to July 31, 2021, including the following:

- Adjustment of Clinical Services
- Long COVID
- Clinical Contact Center Modernization
- Connected Care

Adjustment of Clinical Services

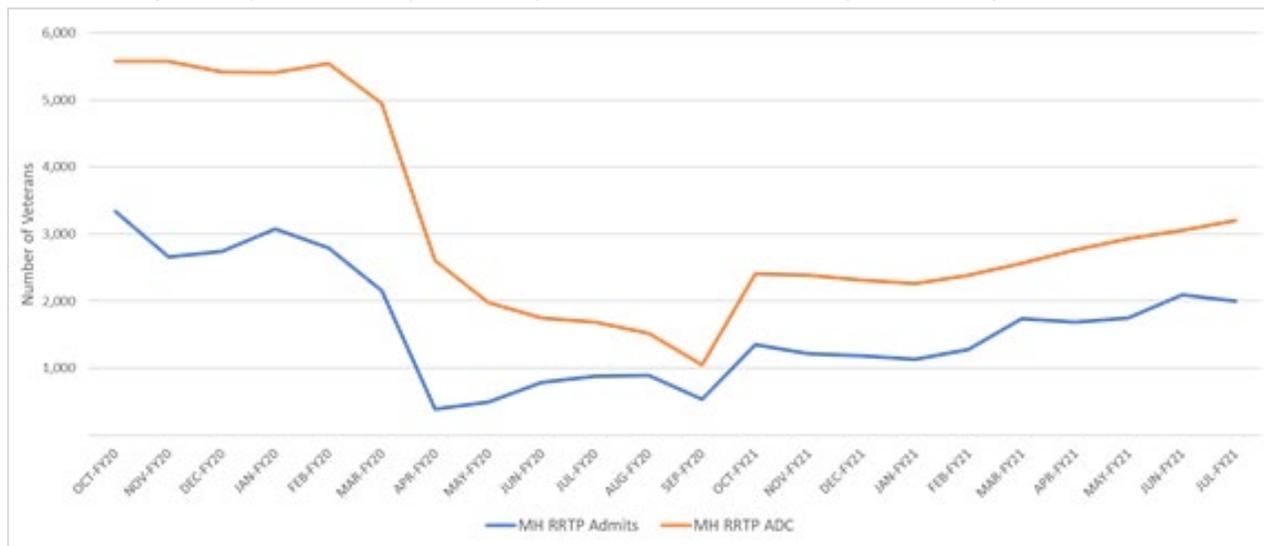
During the Annex B Period, testing was the primary focus for COVID-19 clinical services.⁴⁴⁹ In early 2021, the new White House administration released a series of Executive Orders, many of which involved new or modified testing requirements.⁴⁵⁰ Additionally, VA leadership contributed to a national task force that targeted modeling to determine testing requirements.⁴⁵¹ VA leadership decided that all employees who worked in high-risk areas like CLCs or nursing homes—vaccinated or not—needed to be tested routinely.⁴⁵²

Also during this period, access to care, including deferred care, was a priority for VA.⁴⁵³ VA adjusted its clinical care capacity guidelines based on evolving public health guidance.⁴⁵⁴ This was particularly relevant for dental and mental health services. Dental services had been slow to open fully because of the risk of potential COVID-19 exposure associated with oral services and challenges adapting older buildings to minimize risks to providers and patients.⁴⁵⁵

Outpatient mental health services were delivered remotely through telehealth while residential mental health treatment remained reduced. Mental Health Residential Rehabilitation Treatment Programs (MH RRTPs) saw an increase in admissions and use of its programs, as shown in **Figure 9.1**. The average daily occupancy grew by nearly 1,000 Veterans from January 2021 through July 2021. However, the use of MH RRTP services remains below pre-pandemic levels as a result of reduced capacity related to mitigation practices (for example, quarantining and single-room occupancy) seen as necessary to ensure safety for both staff and patients.⁴⁵⁶ Staffing was another issue that impacted utilization because staff were frequently pulled to support other COVID-19 surge efforts.⁴⁵⁷

MH RRTPs are in-person residential treatment programs that provide full-time supervision and support for Veterans who have certain mental health, substance use disorders or psychosocial needs that require more intensive services beyond outpatient mental health.⁴⁵⁸

Figure 9.1: Mental Health Residential Rehabilitation Treatment Program Admissions and Average Daily Census by Month (October 1, 2019 – July 31, 2021)



Source: OMHSP, FY2020, 2021 Average Daily Census and Admissions, accessed 10/8/2021.

The COVID-19 Delta variant emerged during this Annex B Period; however, Delta-related adjustments to clinical services did not begin until August 2021 as cases began to rise across the southern United States.⁴⁵⁹

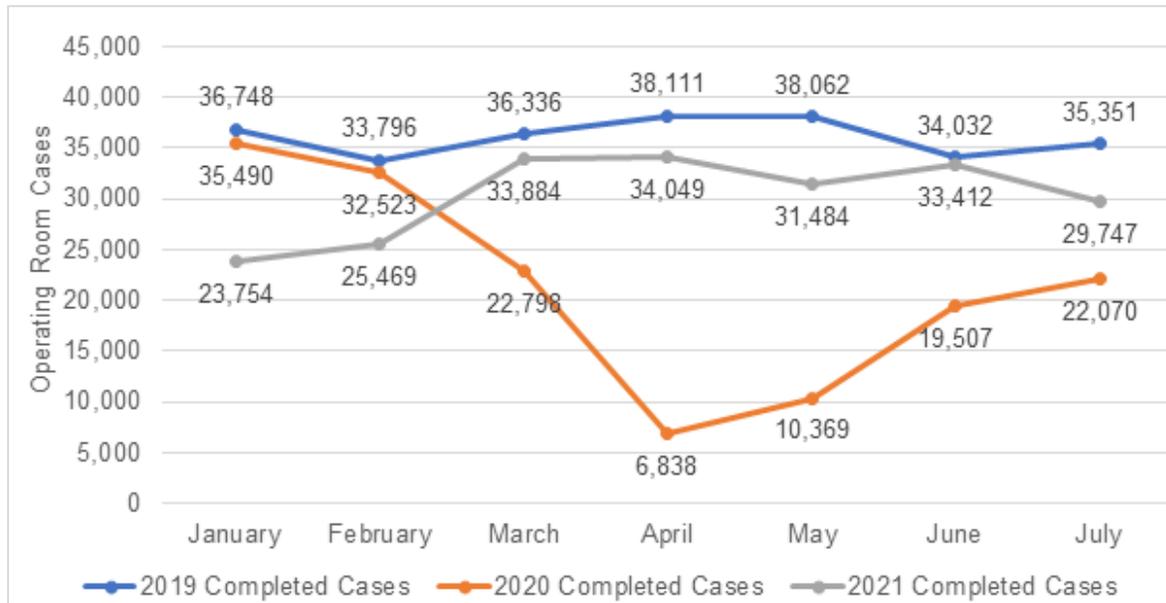
Operating Room Cases

When the pandemic reached the United States in early 2020, operating room cases decreased sharply, consistent with the decision to restrict procedures to urgent/emergent indications.⁴⁶⁰ Case volume remained from 6,838 to 22,070 monthly cases through July 2020 as facilities implemented individualized VHA Moving Forward Plans.⁴⁶¹

OR cases increased across the first 4 months of 2021, eventually peaking at over 34,000 in April 2021, as shown in **Figure 9.2**. Cases stayed steady at approximately 24,000 procedures per month through January and February 2021, reflecting variation in facilities’ capacities and Veterans’ choices for elective care. From March

2021 to July 2021, OR cases were much greater in number than in 2020 due to decreased COVID-19 restrictions, but had not returned to pre-pandemic levels.

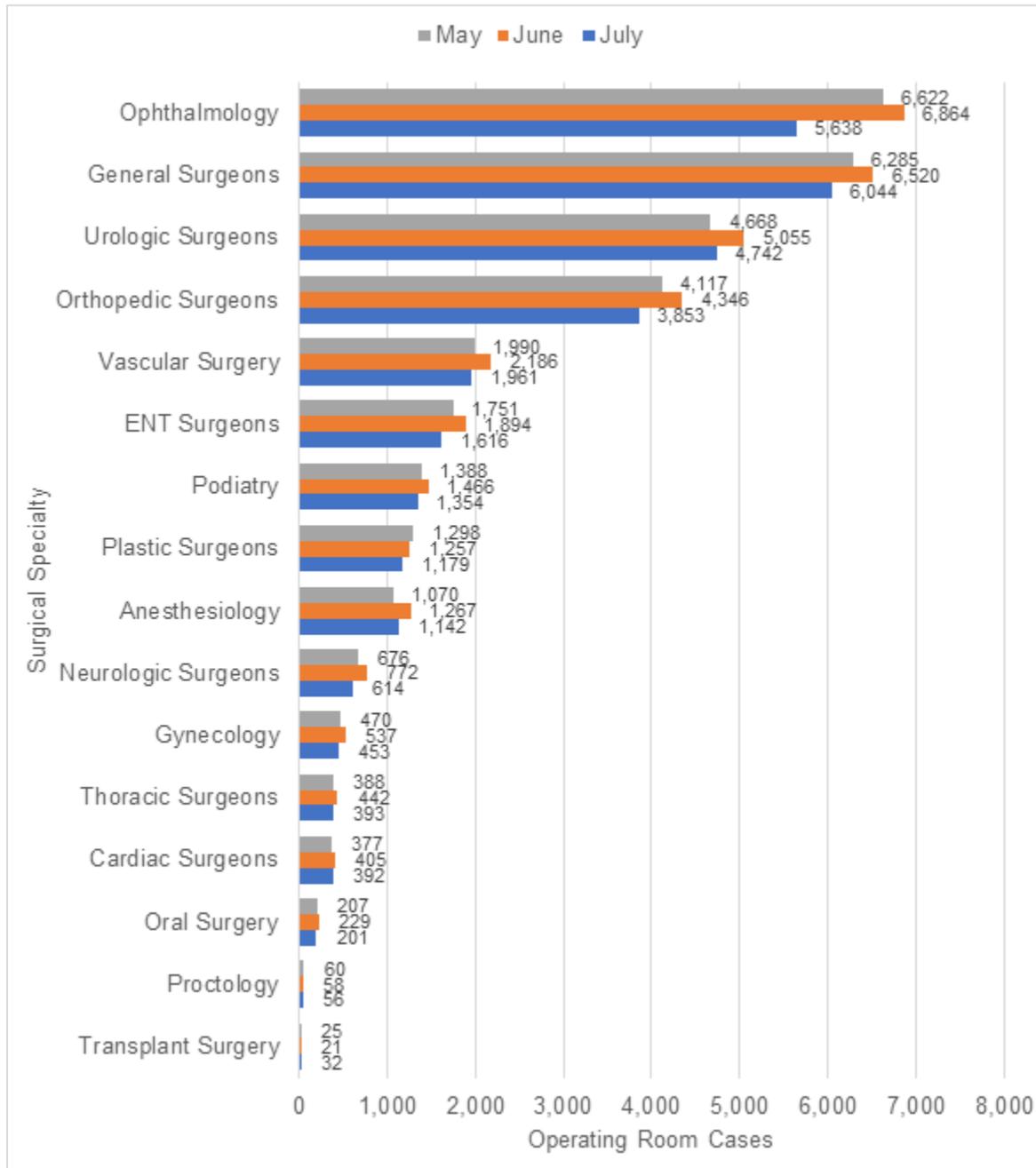
Figure 9.2: Total Operating Room Cases (January – July, 2019, 2020 and 2021)



Source: VHA, National Surgery Office, 2019, 2020, 2021 Completed OR Cases Data Set, accessed 9/21/2021.

In nearly every category, cases increased from May to June, then decreased in July 2021, as shown in **Figure 9.3**. Ophthalmology completed the most OR cases (19,124) during the noted months.

Figure 9.3: Completed Operating Room Cases Across all Medical Specialties, May – July 2021



Source: VHA, National Surgery Office, 2019, 2020, 2021 Completed OR Cases Data Set, accessed 9/21/2021.

Long COVID

Most patients who contract COVID-19 report fairly mild symptoms that improve as their immune systems combat the virus. However, a growing number of patients have reported prolonged symptoms following COVID-19.⁴⁶² Some are even experiencing new symptoms several weeks or months after the initial COVID-19 infection.⁴⁶³ This condition is known as Post-Acute Sequelae of SARS-CoV-2 Infection (PASC), or Long COVID.⁴⁶⁴ Symptoms of Long COVID can be wide-ranging in severity and duration and may affect many body systems.⁴⁶⁵

Because COVID-19 is a newly emerged disease in humans, not much is known about the long-term health impact of PASC. In December 2020, the Federal Government allocated \$1.15 billion to support research into the prolonged health consequences of COVID-19.⁴⁶⁶ This funding will be used over four years.⁴⁶⁷

During the Annex B Period, VA began an informational gathering phase related to Long COVID. VA leadership took the following actions:⁴⁶⁸

- Convened pulmonary community practice experts and other specialists to review Long COVID data to help assess future planning for VA
- Assembled multidisciplinary teams of VA clinicians for Long COVID-19 working groups

Additionally, a few networks established a small number of Long COVID VA services across the country.

Clinical Contact Center Modernization

CCCs, known as VA Health Connect, use virtual care technology to provide quick triage and urgent care services for enrolled Veterans.⁴⁶⁹ CCCs help VISNs reduce the burden on individual medical centers, many of which are in danger of becoming overwhelmed during COVID-19 surges or other crises.⁴⁷⁰

During the Annex B Period, VA announced that it will incorporate a cloud-based Customer Relationship Management (CRM) software system for its CCCs.⁴⁷¹ The new software will allow CCC staff to connect with CPRS and Cerner while using Veteran health records to provide a wide array of virtual care and scheduling.⁴⁷² This is part of an effort to modernize the CCC systems already in place.

The addition of new CRM software to CCCs is aimed to allow Veteran information to be readily available with each encounter. According to VHA leadership, bringing in data such as current medications and appointments from links to the electronic records will make delivery of triage and urgent care more seamless for the patient and provider.⁴⁷³ For example, if a Veteran visits a new VA facility, a CCC can quickly provide the medical staff with the patient information. As a result, the Veteran can receive the same level of seamless care regardless of location.



The Martinsburg VA occupational therapy team expanded their virtual offerings to Veterans during the COVID-19 pandemic—and their larger menu of telehealth options, including home-based primary care, is here to stay. (Photo credit: VHA)

The CRM software will enhance the standardized Veteran and caregiver experience.⁴⁷⁴ The CRM implementation is expected to begin in November 2021 and be fully operational by April 2022.⁴⁷⁵

During this period, VA also began implementing telecommunications software it procured in May 2020.⁴⁷⁶ The digital software technology allows Veterans to do the following:⁴⁷⁷

- Schedule appointments

- Speak with a nurse for clinical triage
- Connect with a medical provider for an urgent care visit
- Request medication refills
- Speak with a pharmacist

VHA leadership partnered with every VISN Network Director and leadership team to discuss the technology and modernization effort, including a review of staffing and data expectations. As of July 31, 2021, four VISNs have implemented the Telephony software in their networks.⁴⁷⁸ VA expects to implement Telephony software in all VISNs by the end of 2021.⁴⁷⁹

Connected Care

VA's virtual care technologies aim to foster connections between Veterans and their VA care teams. A strong connection enhances the care each Veteran receives.⁴⁸⁰ The VHA OCC conducts programs that include the following:⁴⁸¹

- **My HealtheVet:** A personal health record system that provides Veterans with a web-based portal to manage their health care
- **VA Mobile:** Mobile apps that expand care beyond the traditional clinical setting, allowing Veterans to access VA records on demand and improve the care experience
- **VA Telehealth Services:** Services that use technology to provide access to care from Veteran homes or in local communities

In the Annex B Period, OCC updated its strategic goals. The VHA Connected Care Strategic Plan for 2021–2025 has the following goals:⁴⁸²

- Enhance Veteran digital engagement
- Deliver care without walls
- Solidify connected care foundations

The plan represents an enterprise-level, unified strategy. VISNs and VAMCs will be able to implement the plan to provide care from anywhere in the country.⁴⁸³

My HealtheVet

From January 1, 2021, to July 31, 2021, the number of virtual care transactions increased by record numbers.⁴⁸⁴ VHA processed over 14 million online prescription refill requests—an increase of 1.8 million compared to the same time period in

2020.⁴⁸⁵ VHA also processed over 17 million secure messages—an increase of 4 million compared to the same time period in 2020.⁴⁸⁶

VA Mobile

As virtual care usage increased during the early phases of the pandemic, OCC responded by creating a series of additional tools designed to connect patients with providers and resources. In early 2021, VHA created a coronavirus chatbot that could field questions and respond to patients' inquiries.⁴⁸⁷ Additional support tools available during this period included the following:

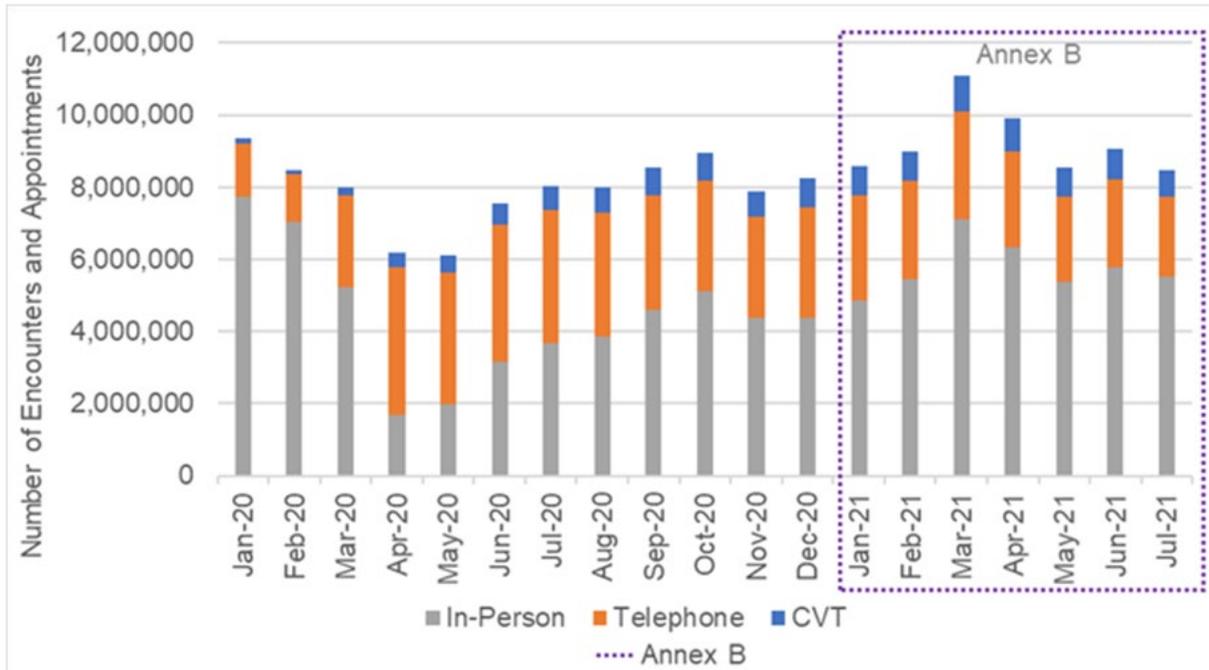
- **My VA Images App:** Veterans can submit images and videos from their homes to their VA provider as part of their care plans.⁴⁸⁸
- **Mental Health Checkup:** From their homes, Veterans can complete mental health assessments that have been ordered by their clinician. The completed assessments are submitted into Vista for clinical review.⁴⁸⁹
- **Health Chat:** Veterans can conduct clinical chats with VA clinicians using this mobile app.⁴⁹⁰ Health Chat has been implemented in 3 VISNs, and 21% of chats are COVID-related.⁴⁹¹
- **Annie:** Annie is a text messaging application that sends and receives text messages with Veterans.⁴⁹² Four Annie COVID-19 protocols were developed and used by 1,447 Veterans.⁴⁹³

Telehealth Usage during COVID-19

Figure 9.4 outlines the number of virtual encounters (telephone and Clinical Video Telehealth, or CVT) and in-person appointments from January 2020 to July 2021. The Annex B report period is highlighted in the right-hand portion of **Figure 9.4**.

From January 2020 to July 2021, total encounters and appointments were highest in March 2021, which eclipsed January 2020 pre-pandemic volume. Similarly, in-person appointments were also highest in March 2021 (7.1 million), which was close to pre-pandemic volume (7.7 million in January 2020). In the Annex B period, total patient encounters/appointments decreased after March 2021 although they remained above eight million encounters/appointments per month.

Figure 9.4: Virtual Encounters vs. In-Person Appointments - all VISNs
 January 2020 – July 2021

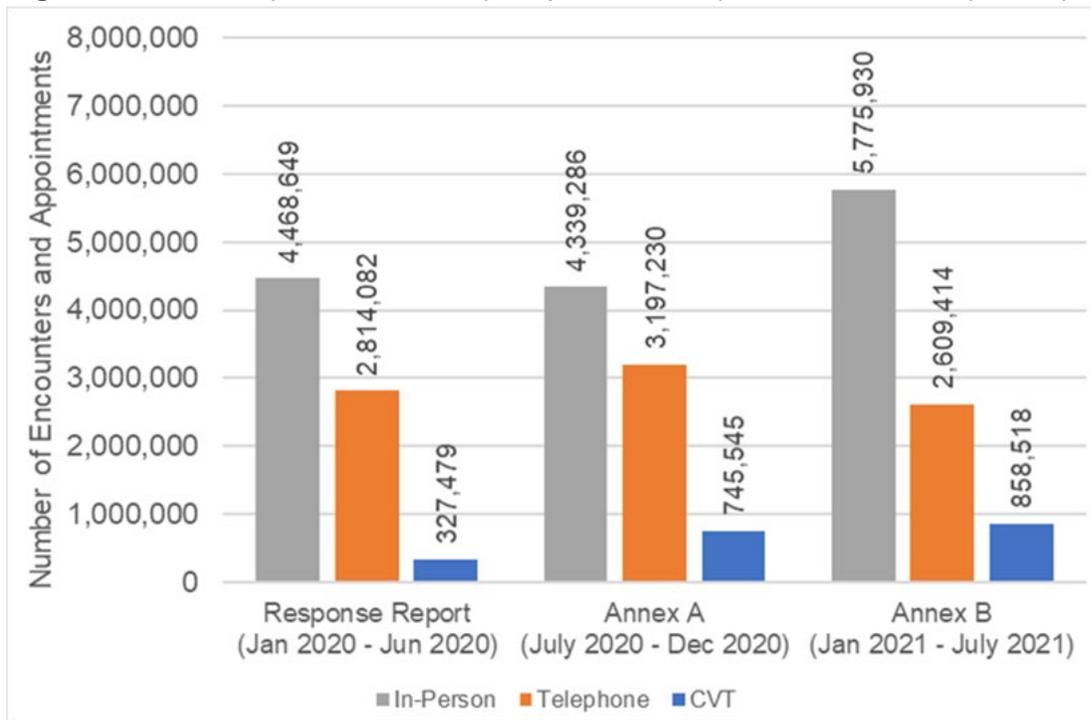


Sources: VHA, VSSC Telehealth Cube, accessed 9/1/2021; VHA, VSSC, Encounters Cube, accessed 9/1/2021; VHA, VSSC Appointments Cube, accessed 9/13/2021.

Note: CVT refers to unique encounters that are attributed to clinical video telehealth. In-person data represents the count of confirmed in-person appointments attended.

Average CVT appointments increased across all three reporting periods, with the highest volume in the Annex B Period, as shown in **Figure 9.5**. Telephone encounters initially increased but then decreased between Annex A and Annex B; this may be associated with increases in in-person and CVT services.

Figure 9.5: Monthly Encounters by Report Period (March 2020 – July 2021)



Sources: VSSC, Telehealth Cube, accessed 9/1/2021; VSSC, Encounters Cube, accessed 9/1/2021; VSSC, Appointments Cube, accessed 9/13/2021.

Note: Confirmed In-Person Appointments attended are used in this analysis. If a patient had multiple stops to different clinics in a single visit, all appointments may be counted separately. Response Report covers March 2020 to June 2020; Annex A covers July 2020 to December 2020; Annex B covers January 2021 to July 2021.

TeleCritical Care

In early 2020, as part of the COVID-19 Critical Care Cooperative Community Program (C5 Program), VHA provided mobile carts to every VHA facility with an intensive care unit (ICU), except for those facilities that already had telecritical care.⁴⁹⁴ Mobile carts provide audiovisual connectivity between bedside providers and telecritical care providers, but do not allow for full bedside clinical interfaces that would be available with full telecritical care implementation (for example, providing labs or vital signs).⁴⁹⁵

Given the success of the C5 rollout, VA launched a comprehensive National TeleCritical Care Program that allowed for full telecritical care services—for example, full clinical data interfaces, bidirectional audiovisual connectivity and electronic medical record access—for all VHA facilities with ICUs.⁴⁹⁶ Ninety-two VHA facilities joined the National TeleCritical Care Program. As of September 1, 2021, telecritical care telemedicine services will be operational at 51 VHA hospitals supporting care in 664 beds. By the end

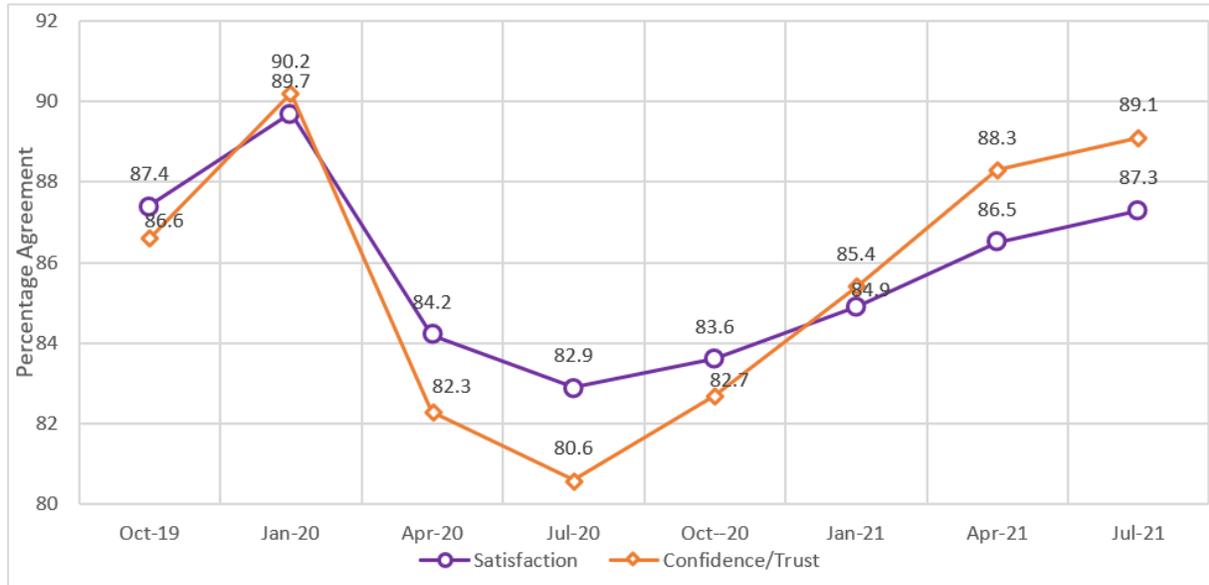
of the expansion, all 92 VHA hospitals that opted to receive telecritical care services, consisting of over 1,500 ICU beds, will have access to telecritical care services.⁴⁹⁷

Telehealth Patient Satisfaction

Patient satisfaction and confidence scores for video telehealth services to the home have varied only slightly from October 2019 to July 2021, as shown in **Figure 9.6**. Early in the pandemic (April-July 2020), satisfaction and confidence slightly declined. VHA leadership attributes this decline primarily to the hundreds of thousands of patients (using thousands of different providers) who were engaging in this form of remote communication for the first time, as well as utilization strains on the telehealth system infrastructure.⁴⁹⁸

Through the Annex B Period, satisfaction and trust scores rebounded to pre-pandemic levels or above, and utilization remained high.⁴⁹⁹ VHA leaders attribute this change to increased experience with telehealth by providers and users, along with new telehealth initiatives, including test calls prior to appointments to promote patient comfort with the technology and telehealth system infrastructure enhancements.⁵⁰⁰

Figure 9.6: VHA Satisfaction and Trust Scores for Video-To-Home Telehealth Services (October 2019 – July 2021)



Source: VHA, COVID-19 Response Annex B Experience Data with Video to Home, 9/2/2021.

Note: The time period on this chart reflects when surveys were sent out, not when survey responses were received.

Impact on Processes of Care

Early in the pandemic, VHA care delivery shifted from primarily in-person care to virtual care. Providers and patients were delivering (and receiving) most of their care from their own homes.⁵⁰¹ During the Annex B Period, OCC continued to refine a series of technologies and processes to enhance virtual care delivery for both patient and provider, including the following:⁵⁰²

- **Digital Divide Consult:** allows providers to refer Veterans to a social worker who can assess them for programs (including the Federal Communications Commission Lifeline, Connected Tablet Program) that help Veterans obtain the technologies (internet and devices) needed to engage with VA by telehealth.⁵⁰³
- **Education Hubs:** provides Veterans with MyHealtheVet training, information about health care mobile apps, test sessions on video visits and one-on-one sessions with a technician who can walk Veterans through the software.⁵⁰⁴ Currently, Education Hubs exist in 10 VISNs.⁵⁰⁵
- **Connected Tablet Program:** loans qualifying Veterans internet-connected mobile tablets so they can access telehealth services.⁵⁰⁶
- **Connected Tablet Program Education Service:** reaches out to Veterans who receive connected tablets from VA to assist with device set-up and initial telehealth test calls.
- **Universal Telehealth Capability:** delivers ambulatory health care via telehealth when medically appropriate and preferred by the Veterans.⁵⁰⁷ VHA initially set a goal to make all ambulatory health care professionals capable of offering their services through video telehealth to the home by the end of 2021.⁵⁰⁸ As of July 31, 2021, nearly 90% of targeted ambulatory care providers have documented at least one video visit.⁵⁰⁹
- **ATLAS Pilot Program:** offers Veterans in broadband-deficient areas the option of private telehealth-equipped appointment space equipped with high-speed internet and telehealth-compatible technology.⁵¹⁰ These stations allow Veterans to access VA care with ease, reducing the need for travel and home broadband.⁵¹¹

Future of Connected Care

The accelerated adoption of connected care during the pandemic response has significantly increased demand for an even broader array of virtual care tools.⁵¹² Many Veterans have expressed interest in a single user platform that can be used for all VHA health care applications.⁵¹³ In response, OCC is looking into ways to integrate various applications into a new low-code/no-code platform for faster development and a more streamlined interface.⁵¹⁴

OCC is also consolidating applications on the provider side. VHA staff can use the Virtual Care Manager application to coordinate, monitor and engage in virtual care delivery.⁵¹⁵ The application will allow VHA providers to do the following:⁵¹⁶

- Subscribe to patient-generated health data
- View dashboards of PGHD and electronic health record data together
- Recommend virtual care tools to patients

OCC also intends to focus on collecting PGHD to help inform clinical decision making.⁵¹⁷ PGHD are health-related data points collected outside of a clinical setting, such as through wearable devices like the Apple Watch and FitBit, or through manual entry through a mobile application.⁵¹⁸ VHA is in the early stages of collecting PGHD and learning how it can inform clinical decision making.⁵¹⁹

OCC is anticipating an increase in the number of Connected Care users as these enhancements take effect.⁵²⁰

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PATIENT SERVICES WORKFORCE

During the Annex B Period, VHA actively explored ways to ensure the quantity, quality and readiness of its nursing workforce.⁵²¹ VHA is focused on increasing career development and other opportunities for nursing staff.⁵²² During this period, VHA also relied on its Travel Nurse Corps (TNC) Program and worked to address health and wellness challenges among its staff.

Support for Nursing Corps

In early 2021, there was a surge in demand for COVID-19 care, and VHA leadership prioritized their focus for the next several months on the following:⁵²³

- Providing continuous operations in the event of subsequent surges
- Improving access to care for services that had been postponed during periods of peak demand for COVID-19 care
- Building a sustainable workforce for the future

VHA is the largest employer of nurses in the Nation, and nurses comprise the largest workforce in VHA.⁵²⁴ During this surge, VHA leadership noted that many nurses expressed interest in migrating away from bedside care, but were not interested in leaving the nursing field altogether.⁵²⁵ VHA sought ways to improve career flexibility for nurses, bringing these opportunities in line with what is available in other VA medical disciplines.⁵²⁶ An example would be splitting time between different nursing disciplines, including clinical practice, academics and quality management.⁵²⁷ As stated by VHA leadership, increased flexibility would allow nurses to grow and develop and have career opportunities that allow them to manage multiple activities of interest at once.⁵²⁸

VHA plans to bolster its human resource processes and tools for recruitment and retention of top nurses.⁵²⁹ VHA is also working to support the growth and development of the Nursing Corps by:⁵³⁰

- Strengthening relationships with academic affiliates
- Increasing the number of scholarships and funded residencies allotted for undergraduate and graduate nurses
- Enhancing career development opportunities for nurses

VA Travel Nurse Corps Program

TNC is an internal pool of VA Registered Nurses (RNs) who are available for temporary assignment to any VA Medical Center in the country.⁵³¹ TNC is part of the Office of Nursing Services, which is 1 of the 12 services aligned under the Office of Patient Care Services.⁵³²

Ultimately, VHA supported 76 additional travel nursing positions across 16 VISNs with funding from the Coronavirus Aid, Relief, and Economic Security (CARES) Act.⁵³³ These 76 positions were created specifically to support COVID-19 deployments.⁵³⁴ Fifteen of the 76 positions are reserved for the Caregiver Support Program, which is designed to support family caregivers.⁵³⁵ TNC typically deploys nurses for 13-week, full-time assignments.⁵³⁶ TNC assignments are voluntary, based on the needs of the facility and the skills of available staff, and are contingent on approval from the requesting facility.⁵³⁷

Impact of the Pandemic on the Health and Wellbeing of the VA Workforce

With the emergence of the Delta variant following the initial three waves of the pandemic, VHA leadership began to see evidence of the pandemic's impact on employee health and wellness. Frontline staff, many of whom had been working long hours over the last 18 months, exhibited a diminished capacity to deal with the stresses and demands of the work environment.⁵³⁸ In some instances, stress manifested in interpersonal challenges and conflict among staff.⁵³⁹

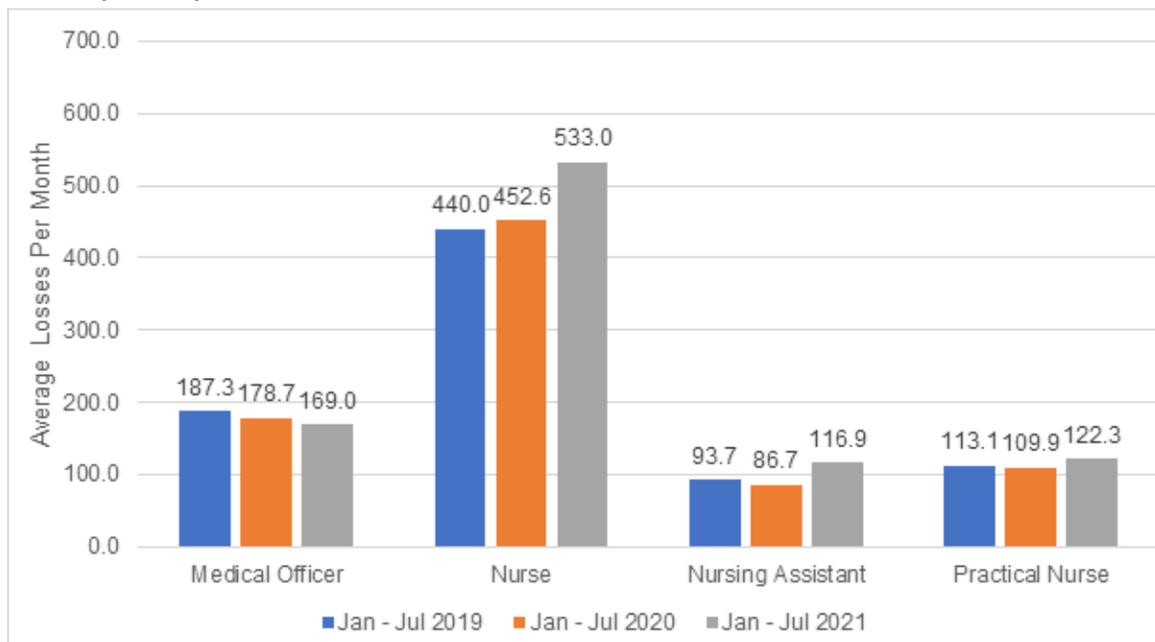
Burnout has remained a challenge for the VHA workforce through the pandemic. According to the 2021 VA All Employee Survey (AES), 19% of responding VHA staff reported moderate burnout in 2021, compared to 16% in 2019.⁵⁴⁰ Similar increases were observed across clinical and non-clinical staff, with the largest increases in psychologists (20% to 26%) and HR staff (19% to 25%).⁵⁴¹

To understand and address staff burnout more fully, VHA launched the Reducing Employee Burnout and Optimizing Organizational Thriving (REBOOT) Task Force.⁵⁴² VHA is also working in close collaboration with other leading U.S. healthcare systems within the National Academy of Medicine.⁵⁴³

In 2020 and 2021, the AES included the question: “How much stress has the COVID-19 pandemic added to your day-to-day work?”⁵⁴⁴ “High” and “extreme” COVID-19 stress trended downward over time, from 30% in 2020 to 25% in June 2021.⁵⁴⁵ High and extreme COVID-19 stress has also declined across all VHA occupations since 2020.⁵⁴⁶ Although there has been a downward trend, VHA leadership noted that it still considers elevated results meaningful because 1 in 4 workers reported high or extreme stress.⁵⁴⁷

Throughout the pandemic, VHA closely monitored the losses of clinical staff, particularly medical officers and nurses. Retirements and resignation (voluntary losses) across all three nursing groups—nurses, nursing assistants and practical nurses—increased from 2019 to 2021, as shown in **Figure 10.1**. There were relatively small differences in voluntary losses to all disciplines when comparing 2019 losses (pre-pandemic) to 2020 losses. However, during the Annex B Period, voluntary losses were higher than 2020 losses for nurses (18%), nursing assistants (35%) and practical nurses (11%). The highest loss total for all three nursing disciplines occurred in 2021. During this period, VHA sustained recruiting and hiring efforts to keep pace with losses.

Figure 10.1: Average Workforce Losses per Month – Retirements and Resignations January – July 2019, 2020, 2021



Source: VHA, VSSC HR NOA Cube, VHA Losses data, accessed 10/4/2021.

Note: The average monthly losses include only Retire and Resignation categories. The data excludes 900 and 901 transfers.

Because of the challenges with morale, wellbeing and staff losses, VHA is considering ways to improve the employee experience. VHA leadership observed that financial incentives, particularly for frontlines workers, were not as effective as anticipated.⁵⁴⁸ For example, some facilities offered to pay nurses up to \$250 an hour, but nurses were reluctant to fill these roles because of the potential risk incurred.⁵⁴⁹ Non-financial approaches to addressing employee health and wellness may include short sabbaticals for frontline workers to allow them to step away from the intensive care unit or COVID-19 unit for a period of time.⁵⁵⁰

VHA leadership also expressed concerns about the potential long-term physical and psychological effects on the workforce. Over the course of the pandemic, 160 VHA employees have died after a diagnosis of COVID-19, including some staff who were vaccinated.⁵⁵¹ It is unknown how many of these employee deaths stemmed from occupational exposure to COVID-19. VHA recognizes the impact of this toll on the workforce. VHA leadership believes that it is critical for VHA and the broader health industry to collect data to understand and mitigate the psychological impact of the pandemic on staff.⁵⁵²

VHA leadership is also concerned about possible physical health effects on VHA physicians, nurses, respiratory therapists and other direct care employees; this data, too, is critical to track as a potential area of study.⁵⁵³

HEALTH CARE ETHICS IN THE PANDEMIC

VHA leadership has emphasized that decision-making in VHA must be based on a solid ethics foundation.⁵⁵⁴ Health care ethics guidance issued during the COVID-19 public health emergency focused on continuing to provide the best support for Veterans and all VHA patients while respecting VA's core values.⁵⁵⁵ VHA plans its ethical responses to health care emergencies using the following standards:⁵⁵⁶

- **Respect:** a commitment to honor human dignity
- **Fairness:** a decision-making process based on the premise of moral equality for all people, which includes consistent and specified criteria for making decisions
- **Transparency:** a clear and open process for decision-making mechanisms
- **Efficiency:** a focus on achieving the greatest good for the largest number of people
- **Equity:** a fair allocation of health care services based on need

Even with a solid ethics foundation, a pandemic raises substantial ethics challenges.⁵⁵⁷ Throughout the pandemic, VHA practitioners experienced multiple ethics challenges.⁵⁵⁸ For example, scarce resources required a set of health care policies to dictate how goods and services would be distributed in an ethical manner.⁵⁵⁹ Some medical facilities did not have enough intensive care beds for people who were critically ill; therefore, facilities created additional intensive care capacity in spaces that were not designed for that purpose under contingency standards.⁵⁶⁰ Staff members volunteered for deployment to areas with higher rates of COVID-19 infection that had an increased need for care providers.⁵⁶¹

The Review Period for Annex B is January 1, 2021, to July 31, 2021; however, because this section is new, it covers events and actions throughout the pandemic.

The National Center for Ethics in Health Care

The National Center for Ethics in Health Care (NCEHC) was created specifically to help VHA providers clarify and promote ethics values in health care.⁵⁶² VHA leadership reported that during public health emergencies, clear ethics standards reduce moral distress on individual health care providers.⁵⁶³ NCEHC provides support for issues associated with, but not exclusive to, the following list of issues:⁵⁶⁴

- Shared health care decision-making
- Ethical practices at the end-of-life (or beginning-of-life)

- Privacy and confidentiality
- Professional conduct by clinicians and others in patient care

Note that NCEHC does not audit or investigate violations of rules or standards; the organization’s role is not to assess or monitor compliance.⁵⁶⁵ Instead, NCEHC’s role is focused on advising on health care ethics questions.⁵⁶⁶ For assistance with health care ethics questions, contact NCEHC at VHAethics@va.gov.⁵⁶⁷

In addition to managing the health care ethics program at VISNs and VHA facilities, NCEHC also addresses health care ethics issues that arise in leadership and National Program Offices with implications beyond a particular facility or patient. It offers solutions and mechanisms to help leaders think through these difficult decisions.⁵⁶⁸

The highest volume of health care ethics consultations related to COVID-19 was received early in the pandemic, in spring 2020, and decreased to one-tenth the volume through summer 2020. Since that time, the volume has stayed relatively low.⁵⁶⁹ This is attributed to the evolving nature of the pandemic: once providers understood the ethical approaches to care when demand (for space, staff, and supplies) outstripped available resources, they were able to apply these standards to multiple situations.⁵⁷⁰ In addition, NCEHC created a list of over 100 frequently asked COVID-19-related ethics questions and published it on its intranet site to guide the field without needing to wait for them to ask for assistance.⁵⁷¹

NCEHC tracks the subject matter of questions it receives related to COVID-19.⁵⁷² The most frequently asked questions related to COVID-19 have changed over time, as shown in **Table 11.1**.⁵⁷³ Scarce resource allocation was the biggest concern earlier in the pandemic.⁵⁷⁴ Later on, ethics questions related to vaccinations were more common.⁵⁷⁵

Table 11.1: Most Common Ethical Questions Regarding COVID-19 by Quarter

	FY2020 Q2 Jan Mar 2020	FY2020 Q3 Apr Jun 2020	FY2020 Q4 Jul Sep 2020	FY2021 Q1 Oct Dec 2020	FY2021 Q2 Jan Mar 2021	FY2021 Q3 Apr Jun 2021
Most common topic	Scarce resource allocation	Scarce resource allocation	Scarce resource allocation	Scarce resource allocation	Vaccine distribution planning: scarce resource allocation	Disclosure of vaccination status/privacy

	FY2020 Q2 Jan Mar 2020	FY2020 Q3 Apr Jun 2020	FY2020 Q4 Jul Sep 2020	FY2021 Q1 Oct Dec 2020	FY2021 Q2 Jan Mar 2021	FY2021 Q3 Apr Jun 2021
Second-most common topic	Disclosure of COVID-19 positive status in employees	Obtaining informed consent while minimizing contact with patients	Insight into release of national guidance regarding COVID-19	Ethics requirements regarding face masks	Moral objections to the J&J vaccine and patient choice	Ethics questions about vaccine mandates
Source: NCEHC, "Trend in volume of COVID healthcare ethics consultations by quarter." Ref D296						

Local Ethics Resources

In addition to NCEHC, every VA facility has its own local health care ethics consultation team through the IntegratedEthics® Program.⁵⁷⁶ The goal of this program is to support, maintain and improve ethics quality in health care.⁵⁷⁷ Ethics consultation improves health care quality by helping staff members, patients and families resolve ethical concerns.⁵⁷⁸ IE provides comprehensive standards, methods and tools to enable high-quality ethics consultations in all VHA facilities.⁵⁷⁹ All ethics team members must meet certain core requirements, including education standards and training, regardless of the facility's particular characteristics.⁵⁸⁰

Pandemic Planning Guidance

VHA and other care-based organizations have a duty to plan for emergencies.⁵⁸¹ This includes planning for public health crises like pandemics.⁵⁸² Having documents created beforehand reduced the burden on an already overworked staff.⁵⁸³

At the start of the pandemic, NCEHC leveraged a document called "Meeting the Challenge of Pandemic Influenza" to provide the ethics framework for COVID-19 guidance.⁵⁸⁴ The 2010 pandemic influenza document was written at the behest of the White House to prepare for a potential outbreak of pandemic influenza (flu).⁵⁸⁵ NCEHC, HHS and other agencies, provided input to the 2010 guidance.⁵⁸⁶

Although COVID-19 is not the flu, the two illnesses have similarities.⁵⁸⁷ For instance, planning for a pandemic flu covered social distancing parameters, mask wearing and scarce resource allocation, all of which were critical in fighting COVID-19.⁵⁸⁸ The document contained a step-by-step guide to help health care providers build teams, conduct triage and brief leaders and other stakeholders.⁵⁸⁹ It also provided a set of core ethics principles, including a leadership decision-making process, and assumptions about ethical challenges that arise during a pandemic.⁵⁹⁰

Modifying Guidance for COVID-19

Despite the usefulness of the 2010 pandemic influenza guidance, some challenges arose during implementation.⁵⁹¹ Local facilities needed additional guidance beyond the 2010 framework, and health care practitioners noted that some of the scarce resource allocation guidance did not work for the COVID-19 pandemic.⁵⁹²

The guidance document was also long and detailed, so even when the necessary information was there, it was challenging to find the answers efficiently.⁵⁹³ To make it easier to find critical information, NCEHC provided educational materials, tabletop exercises, checklists and ethics consultations.⁵⁹⁴

VHA facilities experienced added ethical challenges related to Fourth Mission, which were not considered in the 2010 guidance.⁵⁹⁵ Because VHA was supporting non-Veterans at facilities that usually catered exclusively to Veterans, staff members raised questions related to this provision of care.⁵⁹⁶ For example, some wondered if Veterans should receive preference or priority because of their Veteran status.⁵⁹⁷

In response, NCEHC created a supplement to the 2010 guidance document that discussed the new challenges posed by COVID-19.⁵⁹⁸ The document reflected evolving thinking about public health emergencies.⁵⁹⁹ To facilitate strong communication about these additions, NCEHC hosted a series of national webinars designed to assist health care providers.⁶⁰⁰ The webinars reminded providers about the guidelines for how to make ethically complicated decisions during the pandemic.⁶⁰¹ In FY2020, more than 16,000 people attended these sessions.⁶⁰² NCEHC continued this work as the pandemic evolved in FY2021; an additional 2,200 people attended 22 online events.⁶⁰³

Based on the overwhelming response to the webinars, NCEHC built an intranet site to provide greater resources for health care providers.⁶⁰⁴ The website offers guidance documents, training exercises and frequently asked questions on ethical topics related to the pandemic.⁶⁰⁵

NCEHC also participated in webinars hosted by other VHA organizations, which allowed them to connect with even more health care providers.⁶⁰⁶ Leaders presented ethics-related materials for nursing staff, social workers, chaplains and others.⁶⁰⁷

Specific Issues Addressed by NCEHC

NCEHC also addressed the following specific issues:⁶⁰⁸

- Contingency operations across the enterprise
- Regulatory changes related to asynchronous informed consent
- Ethical issues related to VA's vaccine mandate

Contingency Operations

In a public health emergency, facilities operate in 1 of 3 strategies, based on a framework developed by CDC: conventional, contingency and crisis.⁶⁰⁹

When a facility reaches a critical level of need, health care providers must focus their decision-making processes not on the individual, but on the ethical use of resources to produce the best possible outcome for the overall population.⁶¹⁰

Under contingency standards, resources, staff and space can be augmented or preserved to provide care.⁶¹¹ For example, to meet demand, a hospital may convert a med/surg unit to an intensive care unit.⁶¹² Rather than cancelling appointments, clinicians might use telehealth resources to connect with their patients. To preserve resources, clinicians might extend the use of N95 respirators for repeated close contact encounters with multiple patients.⁶¹³

Crisis Standards of Care provide guidance on strategies to optimize resources when there are shortages in staffing, beds and supplies.⁶¹⁴ When a facility needs to activate Crisis Standards, it means they are no longer able to meet conventional U.S. standards of care.⁶¹⁵ When Crisis Standards are implemented, a facility might need to discharge patients early when they are confident the patient's recovery at home is assured, or transfer patients to another health care facility.⁶¹⁶ Hospitals might cancel all non-critical appointments and elective procedures.⁶¹⁷ Employing Crisis Standards may also mean that personal protective equipment may need to be used beyond the recommended shelf life, or asymptomatic clinicians may need to continue working after known COVID-19 exposure.⁶¹⁸

Each VA facility director is responsible for determining if a facility needs to be operated under either Contingency or Crisis Standards.⁶¹⁹ VHA believes that local leaders are best positioned to weigh all factors and make these decisions in consultation with network or national leaders and experts.⁶²⁰

To support VHA facilities through the COVID-19 pandemic, NCEHC created a series of guidelines for VA decisionmakers, establishing requirements to operate within Contingency Standards.⁶²¹ With these guidelines, VHA facilities managed to use mechanisms to provide functionally equivalent care without resorting to crisis standards of care.⁶²²

Updated VA Regulation on Informed Consent and Advance Directives

Patients have a fundamental right to direct what happens to their bodies.⁶²³ In turn, health care professionals have an ethical obligation to involve patients in a process of shared decision-making and to seek patients' informed consent for treatments and procedures.⁶²⁴

Informed consent is a process of providing to a patient (or surrogate, if the patient lacks decision-making capacity) relevant information about the medical facts, alternatives, potential benefits and risks involved in a proposed treatment or procedure so they can make an informed decision about whether to proceed.⁶²⁵

For years, VHA has been working to modernize its regulation on informed consent and advance directives (38 CFR § 17.32). Adjusting this regulation would allow VHA to leverage new communication modalities and team-based care and facilitate:⁶²⁶

- The informed consent process
- The Veteran's completion of an advance directive

VA determined that these flexibilities were especially urgent during the COVID-19 pandemic and expedited publication of the Interim Final Rule.⁶²⁷

The Rule, which took effect on May 27, 2020, facilitated important processes during COVID-19 when patients may come to a health care facility only for a scheduled treatment or procedure and may use telehealth for other appointments.⁶²⁸ The Rule and the accompanying modified VHA Handbook include patient care benefits, such as the following:⁶²⁹

- Expansion of the approved communication modalities that may be used when in-person informed consent discussions with patients (or surrogates) are not allowed or are impractical
- Expansion of the approved communication modalities that may be used to transmit a signed consent form when it is not possible to obtain the patient's (or surrogate's) signature in-person

- For Advance Directives: Permission for patients (or surrogates) with physical impairments to place an X, thumbprint or stamp on a consent form instead of a signature or to designate a third party to sign a consent form on their behalf (In addition, any member of VHA staff may serve as a witness—a process that was previously prohibited.)

VHA Vaccine Mandate

VHA was the first Federal Government institution to require its employees to receive the COVID-19 vaccination.⁶³⁰ NCEHC leadership worked with VHA leaders to develop ethical parameters related to VHA's vaccine mandate.⁶³¹

These are some of the questions raised prior to the mandate:⁶³²

- What are appropriate incentives to offer in exchange for vaccination?
- What are the ethical justifications for mandating that employees get vaccinated?
- What are the standards for exemptions from the mandate?
- Will managers keep a record of the vaccination status of their employees?

Although NCEHC was involved in developing ethical protocols for the mandate, NCEHC was not involved in decisions regarding who is eligible for a waiver or exemption.⁶³³

Looking Ahead

NCEHC is using the lessons from COVID-19 to augment its future public emergency planning.⁶³⁴ For instance, NCEHC is supplementing high-level guidance documents with simpler, specific checklists, flow charts, graphics and other tools.⁶³⁵ These tools will help health care providers find answers to their questions more rapidly.⁶³⁶

In the future, personal protective equipment will be a major component of early emergency planning.⁶³⁷ Additionally, because VA cares for non-Veterans during emergencies under its Fourth Mission, clear guidance must be provided early to ensure that VA practitioners understand that obligations and standards of care are the same for Veterans and non-Veterans.⁶³⁸

Inequities in health care continue to be an active concern.⁶³⁹ Clinical algorithms and scoring systems are not without bias.⁶⁴⁰ In a pandemic, minority populations may experience a disproportionate burden, which must be considered in future planning.⁶⁴¹ For more information on this topic, see the Health Equity section.

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RESEARCH AND INNOVATION

This section highlights the research and innovation efforts of VHA's Office of Research and Development (ORD) and Office of Healthcare Innovation and Learning (OHIL), performed at VHA research sites and medical centers from January 1, 2021, to July 31, 2021. It does not provide a comprehensive description of all activities undertaken by ORD and OHIL in response to COVID-19.

Research Updates

From January 1, 2021, to July 31, 2021, VHA started approximately 52 COVID-19 research studies across 43 VA sites and published 316 COVID-19-related articles.⁶⁴² VHA also partnered with FDA, CDC and National Institutes of Health on projects pertaining to vaccine effectiveness, therapeutics and surveillance of COVID-19.⁶⁴³

Table 12.1 shows studies, research activities and published articles during the Annex B Period.

Table 12.1: Ongoing VHA COVID-19 Research and Published Articles

Number of Research Studies	Number of Sites Involved in Research Activities	Published Articles
52	43	316

Source: VHA ORD, response to questionnaire, 8/9/2021.

Prevention, Diagnosis and Treatment Research

VHA research continues to explore a wide array of activities to support and advance VHA's clinical and research missions and to help Veterans affected by COVID-19.⁶⁴⁴ VA Informatics and Computing Infrastructure (VINCI) provides and supports the COVID-19 Shared Data Resource (SDR) to a community of researchers in a regulated and secure fashion. SDR is synchronized with the VA National Surveillance Tool multiple times a day to provide up-to-date COVID-19 data from people receiving medical services from VAMCs. It is also augmented with other elements important to researchers.⁶⁴⁵

These efforts have spanned an array of biomedical topics that are important to pandemic response, including diagnostics, health effects, non-interventional studies, therapeutics and vaccine clinical trials.⁶⁴⁶ Some of these studies included

collaboration with other Federal research organizations.⁶⁴⁷ From the beginning of the pandemic through July 31, 2021, more than 60 VAMCs were involved in 1 or more COVID-19 clinical trials.⁶⁴⁸

Research to Practice

VHA leadership reported that COVID-19 research collaborations have strengthened VHA's relationships with other agencies. Leaders expect to continue building these relationships through COVID-19 research and other projects.⁶⁴⁹

Throughout the pandemic, treatments and management for COVID-19 patients have presented clinical challenges.⁶⁵⁰ Treating patients required rapid learning for all clinicians, dissemination of new knowledge and swift application of this new knowledge to provide the most beneficial care.⁶⁵¹ VHA leadership noted that care for COVID-19 patients has been highly dependent on knowledge sharing, including research and applications of treatments, locally and globally.⁶⁵²

VHA leadership also noted the use of digital health solution platforms, such as remote patient monitoring and virtual care telehealth.⁶⁵³ VHA accelerated and expanded its use of virtual care during the COVID-19 pandemic. Digital solutions are now recognized as valuable assets that can be integrated into the care delivery in the hospital or outpatient services.⁶⁵⁴

VHA leaders noted that digital care options still need further investigation to document effectiveness, equitable care and data capture, and they do not completely replace standard care practices.⁶⁵⁵ These practices exposed vulnerabilities in data storage, usage and sharing. In addition, VHA is still in the process of ensuring that virtual care converts to actionable clinical intelligence. Telehealth faces other challenges as well, including interoperability, standards, infrastructure and the technological capabilities of users.⁶⁵⁶

VHA Advanced Manufacturing (part of the VHA Innovation Ecosystem) continued to provide COVID-19 support through its 3D Printing Network.⁶⁵⁷ As part of this effort, three VAMCs registered with FDA as medical device manufacturers.⁶⁵⁸ VHA is considering how point-of-care manufacturing can be used in operating rooms, hospitals and for immediate supply chain resilience for COVID-19.⁶⁵⁹ Ongoing discussions with other external partners may provide further avenues for medical device manufacturing.⁶⁶⁰

Research Studies

Studies about Long COVID

Patients with Long COVID experience persistent, long-lasting health problems even after they have recovered from the acute phase of COVID-19.⁶⁶¹ During the Annex B Period, the Clinical Outcomes Research Collaboratory (CORC) began to identify critical questions about Long COVID.⁶⁶² This effort included collaboration with other agencies, including CDC, NIH and the Biomedical Advanced Research and Development Authority.⁶⁶³ The next phase will begin to determine the types of research questions that should be addressed regarding Long COVID studies.⁶⁶⁴

VHA has a large electronic health database, which it has made available for studies of the virus that causes COVID-19. For instance, in its April 22, 2021 publication in the journal *Nature*, VHA researchers used the database to compare 6-month outcomes of more than 73,000 VA patients who survived COVID-19 without being hospitalized with the outcomes of nearly 5 million VA patients who did not contract COVID-19.⁶⁶⁵ The results showed that the COVID-19 patients had a higher risk of dying in the six months after their diagnosis than the control patients. For every 1,000 patients, 8 more COVID-19 patients died within 6 months.⁶⁶⁶

The researchers concluded that patients who had COVID-19 were at increased risk for a wide range of potentially serious and long-term health conditions. COVID-19 contributed to new health problems that were not present before the infection.⁶⁶⁷ Because approximately 8%-10% of people with COVID-19 experience long-term effects, this represents a significant health crisis that may continue for decades.⁶⁶⁸

Clinical Trials

ORD's strategic priority aims to increase Veterans' access to high-quality clinical trials, including clinical and therapeutic trials addressing COVID-19.⁶⁶⁹ Although no new clinical trials started during the Annex B Period, five studies added additional VA sites to their trials.⁶⁷⁰

Table 12.2 shows the active clinical trials for COVID-19 during the period of January 1, 2021, to July 31, 2021.⁶⁷¹ **Table 12.3** shows selected COVID-19 therapeutic trials for the period of January 1, 2021, to July 31, 2021.⁶⁷²

Table 12.2: Clinical Trials of COVID-19 Vaccines (January 1, 2021 – July 31, 2021)

Name of Product	Trial Phase	Partner Organization	Notes
MRNA-1273	III	Moderna	Prevention of COVID-19 in adults 18 and older, up to 2 years after the second dose
AZD1222	III	AstraZeneca	Prevention of COVID-19
Ad26.COVS.S	III	Janssen*	Prevention of COVID-19 in adults 18 and older
SARS-CoV-2 rS with Matrix-M1 adjuvant	III	Novavax	Prevention of COVID-19
BNT162b2	III	Pfizer-BioNTech	Prevention of COVID-19 in adults 18 and older

Source: VHA ORD, response to questionnaire, 8/19/2021; VHA ORD, response to questionnaire, 1/19/2021.
*Janssen Pharmaceutical Companies of Johnson & Johnson.

Table 12.3: Selected COVID-19 Therapeutic Trials (January 1, 2021 – July 31, 2021)

Name of Product	Trial Phase	Sponsor / Funding Type	Notes
Anticoagulation with and without platelet therapy	IV	TIMI Study Group/Private	Prevention of arteriovenous thrombotic events in critically ill COVID-19 patients' trial (COVID-PACT). Active/Recruiting.
Nitazoxanide (NTZ)	III	Romark Medical Institute/ Private	Post-exposure prophylaxis in patients with COVID-19 and other respiratory illnesses in elderly residents of long-term-care facilities. Active, Enrollment Complete.
Nitazoxanide (NTZ) 2	III	Romark Medical Institute/ Private	Post-exposure prophylaxis in patients with COVID-19 and other respiratory illnesses in health care workers.
Ramipril	III	UC San Diego/Academic	Prevention of ICU admission, mechanical ventilation or death in persons with COVID-19. Active/Recruiting.
hIVIG	III	NIH/Agency collaboration	Treatment of adult hospitalized patients at onset of clinical progression of COVID-19.
Baricitinib Tocilizumab (TCZ)	III	Genentech/Private	Treatment of hospitalized patients with COVID-19 pneumonia. Active/Enrollment Complete.
Pegylated Interferon Lambda	II	Eiger Biopharmaceuticals / Private	Treatment of COVID-19. (This study did not occur.)
Convalescent Plasma	III	ORD-CSR/D/VA	Improvement of clinical outcomes in Veterans who are hospitalized and require supplemental oxygen due to COVID-19 (VA CURES-1: VA Coronavirus Research and Efficacy Studies). Early Closeout.
Leronlimab (PRO 140)	IIb/III	CytoDyn/Private	Treatment of patients with severe or critical COVID-19 disease. Active/Enrollment Complete.

Name of Product	Trial Phase	Sponsor / Funding Type	Notes
Degarelix	II	ORD	Treatment (hormonal interventions) of Veterans with COVID-19 who require hospitalization. Early Closeout.
Source: VHA, ORD, response to questionnaire, 8/19/2021.			

Research Using Genomic Sequencing Data

VHA’s genomic sequencing research effort, VA Sequencing Collaborations United for Research and Epidemiology (SeqCURE), is a network of five ORD-supported research laboratories that study SARS-CoV-2 genomes to identify COVID-19 variants. VHA SeqCURE complements VHA’s clinical sequencing effort for Research, Clinical and Epidemiology, known as VHA SeqFORCE.⁶⁷³

Sites for VA SeqCURE include VHA laboratories in Cleveland, Ohio; Durham, North Carolina; Iowa City, Iowa; Boise, Idaho; and Temple, Texas.⁶⁷⁴ Research projects include vaccine and therapeutic effectiveness, complementing SeqFORCE by finetuning methodologies, studying differences in variants and vaccine breakthroughs in rural areas (Idaho, Texas and Iowa), following epidemiology of SARS-CoV-2 variants within the VHA health care system and determining the relationships between viral variants and Long COVID.⁶⁷⁵

All COVID-19 samples from patients tested by VHA are sent to the VA Science and Health Initiative to Combat Infectious and Emerging Life-Threatening Diseases (VA SHIELD) for bio-repository along with the genomic data from the sequencing efforts.⁶⁷⁶ Other government entities have shown interest in the data, which may result in collaborations and merging of community and population data with CDC and NIH.⁶⁷⁷

Non-Interventional COVID-19 Studies

Table 12.4 shows the 18 non-interventional COVID-19 studies in which VA participated from January 1, 2021, to July 31, 2021.⁶⁷⁸

Table 12.4: Non-interventional COVID-19 Studies (January 1, 2021 – July 31, 2021)

Project Title	Project Summary
Predictor Profiles of Opioid Use Disorders (OUD) and Overdose Among Post-9/11 Veterans	Aim 3 will investigate the short- and long-term impact of the COVID-19 pandemic on the risk of OUD and overdose using machine learning to develop predictor profiles.

Project Title	Project Summary
Neural and Cognitive Consequences of COVID-19 Survival	Characterize neuropsychological function and neuroimaging data in COVID-19 survivors to explore relationships between neurodegenerative and inflammatory blood markers.
Vaccine Failure: Natural History and Determinants of Post-Vaccination COVID-19	Describe and compare COVID-19 clinical outcomes by vaccine type and manufacturer, and determine environmental and host factors associated with vaccine failure.
Significance of Fc Properties and Functions in Antibody Responses against SARS-CoV-2	Investigate the protective role of antibodies against the SARS-CoV-2 spike protein and its receptor-binding domain following vaccination or infection.
Fast-Tracking Treatment by Exploiting the Steroid Hormone receptor/TMPRSS2 Axis	Aim 1: Evaluate steroid hormone receptor regulation in human airway and lung cells and lung cancer cell line models. Aim 2: Examine FDA-approved drugs to block SARS-CoV-2 in human airway and lung cells.
Immune Mediated Lung Injury in COVID-19	Aim 1: Examine mechanisms by which neutrophils mediate immune pathology. Aim 2: Isolate neutrophils from COVID-19 patients and assess antiviral activity.
Type I IFN and TLR7 Response Regulates Susceptibility to COVID-19	Understand the molecular mechanisms of macrophages and endothelial cells in the lung induced by SARS-CoV-2 infection.
Identifying B Cell/T Cell Epitopes of Virus SARS-CoV-2 to Develop Tests	Develop tests for screening and response evaluation in patients with a COVID-19 infection.
Linking Immunologic Phenotypes and COVID-19 Respiratory Failure	Conduct rapid pilot studies to integrate epidemiologic, radiomic and immunologic monitoring to guide future precision interventions.
Pilot Cellular Immunology Studies	Examine mechanistic foundation for COVID-19 vaccine optimization and NK cell therapy in the aging VA population.
Microsampling-Based Multiplexed Evaluation of COVID-19 Infections	Evaluation to define determinants of host response and clinical outcomes in COVID-19 infections.
Predictive Algorithm of Chest CT Imaging of COVID-19 Patients	Develop predictive algorithm and AI-enhanced chest CT imaging for the screening of hospitalized COVID-19 patients.
HDL's Role in Innate Immunity and Cardiovascular Protection from COVID-19	Test hypothesis surrounding HDL's role in COVID-19 infectivity.
Source: VHA ORD, response to questionnaire, 8/19/2021.	

Research Barriers

According to VHA leadership, staffing remains a barrier to research progress. Employees trained in molecular techniques are in high demand; retaining and recruiting these experts is an ongoing challenge.⁶⁷⁹ Highly trained laboratory technicians are also needed, but it is similarly difficult to hire and retain these workers. Competitors include pharmaceutical companies, education institutions and research hospitals, many of which are able to pay higher salaries than VHA.⁶⁸⁰

Manufacturing delays are also a barrier to research development. Certain technologies have experienced significant delays during this period worldwide. For example, a shortage of microchips that are critical to the platforms used in rapid sequencing of samples created major delays for research.⁶⁸¹

Furthermore, obtaining staff to conduct clinical research continues to be a challenge. Skilled staff are in high demand, and the ability to maintain and bring onboard a ready workforce is a continuing challenge that ORD is managing.⁶⁸²

Preparing for Future Research

The VA Innovation and Research Review System (VAIRRS) is VA's Institutional Review Board site (IRBNet). It provides a platform to support the management of research oversight committees.⁶⁸³

In October 2020, VHA began to integrate VAIRRS into all VAMCs with research programs.⁶⁸⁴ The system's purpose is to connect investigators, community managers and other VA research administrators with VA facilities, helping them to conduct VA research and address changing needs.⁶⁸⁵ As of April 2021, a total of 93 VA research sites had been VAIRRS-enabled with the support of the Office of Research Protections, Policy and Education.⁶⁸⁶

In July 2020, VHA established VA SHIELD, a biorepository project.⁶⁸⁷ All COVID-19 samples are sent to VA SHIELD for storage. With the combined sequencing information, researchers can go back to the raw data for possible identification of additional variants and for research and tracking of emergent viruses, among other future studies.⁶⁸⁸

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FOURTH MISSION

As a foundational part of Federal emergency management through the National Response Framework, VA leads the effort to meet Veterans' needs and fills gaps in community services for Veterans, service members or civilians if needed.⁶⁸⁹ In times of crisis, VA partners with other government agencies at the Federal, state, local, tribal and territorial levels.⁶⁹⁰ This includes acts of terror, urgent health crises and hurricanes and other natural disasters.⁶⁹¹ This is part of VA's Fourth Mission.

Federal resources may be needed when the resources necessary to respond to a disaster exceed the capabilities of local and state governments.⁶⁹² Agencies may request Federal assistance through the Federal Disaster Declaration process. FEMA is the Federal agency responsible for coordinating Federal resources in support of these requests.⁶⁹³ If it is determined that VHA resources are needed and available for response, FEMA issues VA a Mission Assignment.⁶⁹⁴



Since the pandemic began, more than 1,000 VHA staff have volunteered for more than 3,700 deployments to support Veterans and civilians in the most hard-hit areas of the country. (Photo credit: VHA)

Overview of FEMA Mission Assignments

From the pandemic's start through July 31, 2021, VHA executed 158 FEMA Mission Assignments.⁶⁹⁵ Twenty-three began in 2020 and extended into 2021.⁶⁹⁶ From January 1, 2021, to July 31, 2021, FEMA issued 43 mission assignments, supporting 20 states, Washington, D.C. and American Samoa.⁶⁹⁷ This was the first time VA provided COVID-19 support to American Samoa through a FEMA Mission Assignment.⁶⁹⁸ VA also increased its COVID-19 support within the states; Ohio and Tennessee both received FEMA Mission Assignment support this period.⁶⁹⁹

In January 2021, the majority of FEMA Mission Assignments shifted to supporting mass vaccination efforts when COVID-19 vaccines became available to the public.⁷⁰⁰ This was a pivot from earlier in the pandemic when most Fourth Mission activities focused on deploying staff to support understaffed hospitals and SVHs experiencing outbreaks and on providing care for civilian COVID-19 patients in VA Medical Centers, primarily during COVID-19 surges.⁷⁰¹

When the vaccine reduced the daily occurrence of COVID-19 cases from January 2021 through June 2021, the demand for vaccination support decreased.⁷⁰² VHA leadership stated that the Delta variant surge across the country increased support requests in late July 2021.⁷⁰³

Mass Vaccination

When Fourth Mission work pivoted to include mass vaccination, all the VISNs developed and managed their mass vaccination plans.⁷⁰⁴ VISNs connected with their communities by partnering with churches and local Veteran Service Organizations (VSOs) and conducted outreach to deliver vaccines.⁷⁰⁵ This included vaccine delivery to rural areas, such as Montana and New Mexico.⁷⁰⁶ Some VISNs held weekend vaccination events, providing more flexible appointment times for their civilian community members.⁷⁰⁷

The VISNs shared their ideas and lessons learned on daily national calls.⁷⁰⁸ These collaborative calls popularized the drive-thru vaccination efforts among the VISNs.⁷⁰⁹ According to the Deputy Assistant Under Secretary for Health for Operations, this type of innovation and collaboration significantly increased the success of Fourth Mission vaccination efforts.⁷¹⁰ The Assistant Under Secretary for Health for Operations reported that VA was mainly able to meet the resource requests from FEMA without degrading Veteran care.⁷¹¹ The passing of the SAVE LIVES Act in

March 2021 also increased VA's outreach by enabling VHA to vaccinate the spouses and caretakers of Veterans.⁷¹²

Deployments

VA's Fourth Mission uses the Disaster Emergency Medical Personnel System (DEMPS) to deploy staff in emergency situations when local or regional assets are unavailable.⁷¹³ Through DEMPS, clinical staff and non-clinical staff members volunteer for FEMA Mission Assignments and are borrowed from their posts, typically for two weeks, to support crisis situations.⁷¹⁴

To identify potential challenges, VHA held listening sessions with employees who deployed in 2020.⁷¹⁵ In response to employee feedback, VHA further modified deployment policies to provide more information and support to better prepare employees for deployments.⁷¹⁶ VHA leadership also noted that employees came to more fully appreciate VHA's structure, policies and governance when these new processes were implemented.⁷¹⁷

State Veteran Homes

From January 1, 2021, through July 31, 2021, the decline in COVID-19 cases led to less need for Fourth Mission support to SVHs, which are nursing homes for Veterans (and some Veteran family members) that are owned and operated by states.⁷¹⁸ (During 2020, approximately one-quarter of VA's FEMA Mission Assignments supported SVHs.⁷¹⁹)

According to the Assistant Under Secretary for Health for Patient Care Services, VHA is working to become more proactive in its support of SVHs.⁷²⁰ VHA hopes to increase the consistency of its SVH assistance through its enhanced survey tool to better understand and meet the needs of SVHs.⁷²¹

Interagency Support

In addition to FEMA Mission Assignments during the Annex B Period, the following agencies received support through interagency agreements (IAAs) to vaccinate their workforces:⁷²²

- HHS (including Indian Health Services and the Administration for Children and Families)
- Department of Homeland Security (DHS)
- FDA

- General Services Administration
- National Archives and Records Administration
- U.S. Courts Administrative Office

According to VHA leaders, this work was much more complicated than they had anticipated.⁷²³ VHA had to manage the logistics to reach vaccination sites.⁷²⁴ In some cases, VHA would have to plan moving and storage, carry the vaccine and then take care of the medical waste.⁷²⁵ VHA did not initially anticipate the provision of interagency support at widely dispersed locations far from its facilities during vaccination planning.⁷²⁶

VHA leadership reported additional coordination challenges in aligning demand, signups and vaccine supply at the interagency vaccination events.⁷²⁷ For instance, some events had unexpected attendees.⁷²⁸ In some cases, VHA ran out of doses while trying to accommodate the additional personnel.⁷²⁹ At other times, fewer people would attend than expected.⁷³⁰ VHA leadership stated that one agency requested 200 doses, but only 5 people came for vaccination.⁷³¹

VHA also experienced challenges related to data privacy issues because VHA needed personal health information on Federal employees to prioritize vaccinations.⁷³² Most other Federal agencies are not health care providers and do not require other vaccinations such as the flu vaccine.⁷³³ They are not expected to have electronic health records, pre-existing processes or resources for collecting personal health information.⁷³⁴ Working through these data and personal information security issues caused delays in IAAs and transferring data to VHA that were necessary to prioritize vaccinations.⁷³⁵ The Federal agencies had to request information from some workers directly.⁷³⁶ VHA leadership reported that the challenges met in the interagency vaccination support provided valuable lessons for future mass vaccination planning.⁷³⁷

Despite these challenges, VA continued to engage in IAAs supporting national vaccine efforts.⁷³⁸ VHA vaccinated 54,312 members of the Federal workforce and continues to deliver the vaccine to protect the Nation.⁷³⁹

Vaccination Support to Deported Veterans

Deported Veterans were included in the vaccination events carried out through VA's Fourth Mission. In July 2021, DHS and VA announced that the two departments were working together to introduce an initiative to support noncitizen service

members, Veterans and immediate family members.⁷⁴⁰ The two departments—along with other partners—identify deported Veterans and provide them with VA benefits, if eligible.⁷⁴¹ According to DHS, the goal of this initiative is to support and serve all Veterans who have served for the United States.⁷⁴²

On September 15, 2021, VA held an event to vaccinate deported Veterans and those eligible under the SAVE LIVES Act.⁷⁴³ To make this event possible, a private organization brought a total of 21 people to the U.S.-Mexico border, including 18 non-citizen Veterans and 3 people eligible for vaccination under the SAVE LIVES Act. After crossing into the United States, they met with VA San Diego Health Benefits and Eligibility (HB&E) and DHS staff, and were brought briefly to a U.S. border facility to be vaccinated by VA San Diego nursing and pharmacy staff.⁷⁴⁴

After vaccination, 19 of the 21 individuals met with Veterans Benefits Administration (VBA) staff to discuss VA benefits.⁷⁴⁵ They were then escorted back to Mexico by DHS staff.⁷⁴⁶ According to VHA leadership, the event was stocked with emergency medical supplies, and there was an ambulance on the Mexico side of the border in case any of the vaccine recipients were to suffer an adverse reaction to the vaccine.⁷⁴⁷ No emergency took place, and the event was successful and well-received by the deported Veterans.⁷⁴⁸ With the support of the White House, VA and DHS plan to continue to support deported Veterans.⁷⁴⁹

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PREPAREDNESS

This section provides updates on VHA's preparedness efforts and progress. Reflecting on the challenges of the COVID-19 pandemic, VHA is capitalizing on lessons learned to improve its readiness and ability to respond to future public health contingencies and Fourth Mission support requests.⁷⁵⁰



The Milwaukee VA fabricates its own clear plastic lenses for controlled air purifying respirator helmets used in COVID wards. (Photo credit: VHA)

Since the publication of VHA's COVID-19 Response Report Annex A, VHA has made substantial progress toward achieving its preparedness goals. These advances include the following:

- Establishing VHA RRCs to support existing and future Fourth Mission and public health contingency support requests.⁷⁵¹
- Expanding strategic partnerships between DoD, DLA and VA. This interagency partnership will comprehensively reform and centralize VA's procurement of medical equipment, supplies and distribution as part of DLA's

Whole Government support division portfolio and as outlined in the 2021-2026 DLA Strategic Plan.⁷⁵²

- Resume modernization of VHA's inventory management system via implementation of the Defense Medical Logistics Standard System (DMLSS) to standardize equipment, supply purchasing and accountability, which will improve tracking and awareness of medical and surgical supplies, including COVID-19 supplies.⁷⁵³
- Optimizing VHA's personnel deployment strategy and supporting processes to facilitate emergency response resourcing of highly skilled and trained clinical staff to meet future Fourth Mission support requests.⁷⁵⁴
- Creating a Readiness Modernization Working Group to assess, organize and implement preparedness initiatives and programs.⁷⁵⁵

Lessons learned from VHA's pandemic response and Fourth Mission support will be used to inform future public health contingencies and Fourth Mission response requests.

Preparing for Future Emergencies

At the beginning of the pandemic, VHA experienced shortages in medical supplies resulting from disruptions in the national and global medical supply chains. These shortages made it difficult to procure necessary medical equipment and supplies to support national COVID-19 response missions and sustain Veteran health care delivery. Like many other health care organizations, VHA has traditionally relied on a just-in-time (JIT) supply strategy to support and sustain health care delivery.⁷⁵⁶ Disruptions caused by the COVID-19 pandemic significantly impacted traditional procurement channels. The system experienced significant shortages in the following:⁷⁵⁷

- Medical supplies and equipment
- Medical laboratory supplies and test instruments
- Critical personal protective equipment

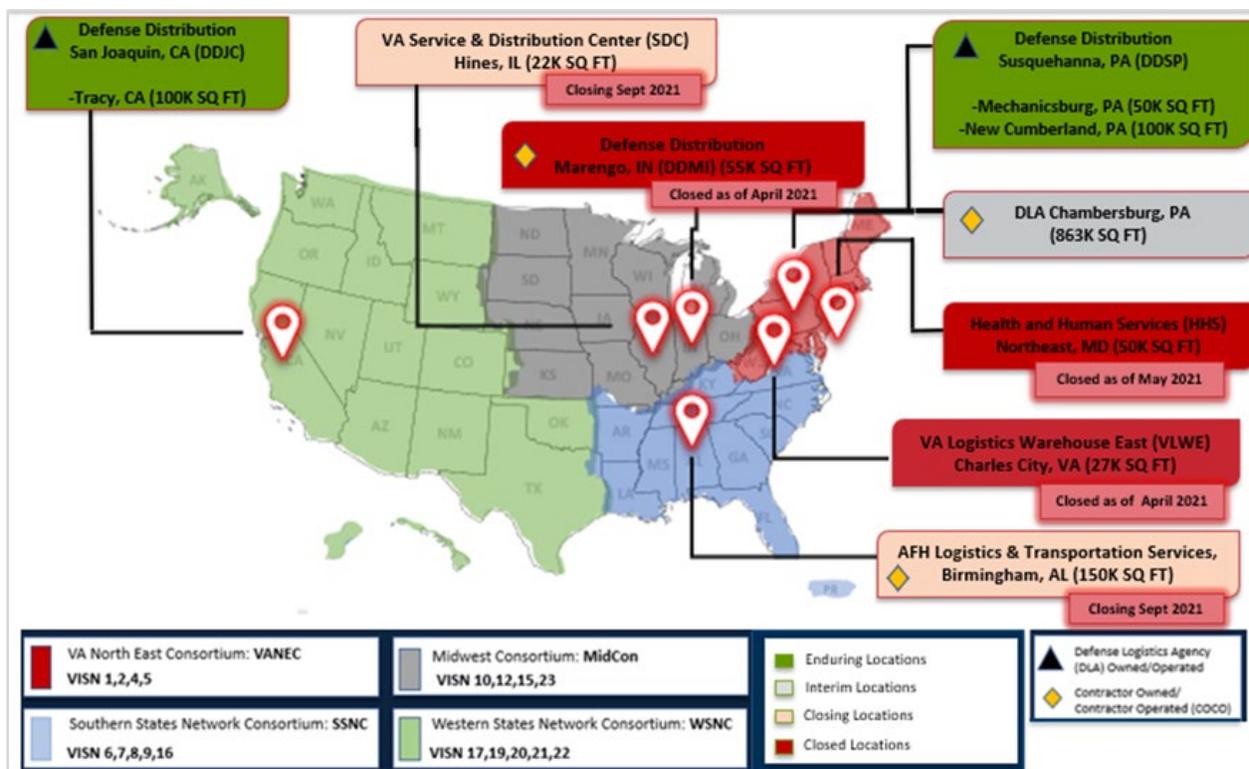
As part of its lessons learned from the pandemic, VHA is taking significant steps to prepare itself for future medical supply chain disruptions.⁷⁵⁸ This includes addressing supply chain recommendations from the Government Accountability Office (GAO).⁷⁵⁹

Regional Readiness Centers

RRCs are VHA-run supply storage centers that are strategically located where they can support each of the four VISN consortiums.⁷⁶⁰ As of July 31, 2021, four RRCs were operating. During the height of the pandemic, there were nine RRCs open and addressing emergency needs.⁷⁶¹ From March 1, 2020, to July 13, 2021, the interim RRC warehouses held 455 distinct products and fulfilled requests for 469 facilities, resulting in the distribution of 126,936,258 items.⁷⁶²

In keeping with interagency agreements, five RRCs have closed or were in the process of closing at the time of this report. Long-term, VHA intends to finalize implementation and establishment of 1 RRC in each of the 4 regional consortiums.⁷⁶³ **Figure 13.1** provides a geographic overview of evolving VHA supply and distribution warehousing system activities.

Figure 13.1: VHA Regional Readiness Centers Activities



Source: VHA, P&LO, Regional Readiness Centers Overview briefing, 8/23/2021.

The purpose of these centers is to provide emergency supply access when the supply chain is disrupted.⁷⁶⁴ RRCs build resiliency into VHA operations and enable VHA to sustain continuous services to Veterans under contingency operations.⁷⁶⁵

VHA has established a Supply Chain Modernization Committee, which developed an initial RRC operating capability and finalized the RRC governance structure.⁷⁶⁶ VHA and DLA signed an interagency agreement to coordinate management of the current four RRCs.⁷⁶⁷ The RRCs are currently in the initial operating capability phase, and the full operational capability is still in progress.⁷⁶⁸

RRCs are still a new venture for VHA. The organization is in the process of maturing the operational concept behind these centers.⁷⁶⁹ In December 2020, the proposed organization chart for the RRCs—including workforce and classification—was approved.⁷⁷⁰ As of the Annex B Period, VHA had 18 full-time employees pending to hire for the RRCs.⁷⁷¹

As of July 31, 2021, the RRCs were focused on supporting the ongoing COVID-19 pandemic response and Fourth Mission support requests.⁷⁷² Most of the supplies that had been scarce early in the pandemic became available again during this time period. The only exception was N95 masks, which presented additional procurement challenges.⁷⁷³

Deployable Mobile Intensive Care Units

VA uses Deployable Mobile Intensive Care Units (Mobile ICUs) to help support surge capacity when needed.⁷⁷⁴ Mobile ICUs are designed to optimize speed and flexibility in emergency responses.⁷⁷⁵ The units include their own potable water systems and oxygen-generation capability.⁷⁷⁶

VHA is working to determine the best way to dispense supplies and equipment with the deployable packages.⁷⁷⁷

Supply Chain Modernization and Resilience

VHA continues to drive improvements toward accomplishing its strategic goal to create a fully integrated and efficient supply chain system. This requires streamlining inventory and facility management capabilities and processes.⁷⁷⁸

Ordering and Warehouse Management System Improvements

As of July 31, 2021, VHA's supplies were primarily managed by DLA.⁷⁷⁹ DLA uses the Defense Property Accountability System (DPAS) and the Decision Support System (DSS) to manage inventory at its facilities.⁷⁸⁰ VHA has developed a three-stage ordering and warehouse management system plan for its facilities. This plan

includes moving all resources to the National Contingency Response Tool (NCRT) system over time. These are the three stages:⁷⁸¹

- **Short-Term:** RRCs will use the NCRT to request supplies.
- **Mid-Term:** VA Medical Centers will use NCRT to request supplies; DMLSS will be incorporated as the warehouse management system of record at all RRC locations, replacing DPAS and DSS.
- **Long-Term:** LogiCole, a single web-based application supporting all medical logistics functions, replaces both the NCRT and DMLSS.

VHA is continuing to advance the ongoing adoption and use of DMLSS to improve and automate logistics and supply chain management.⁷⁸²

According to VHA leadership, fielding of DMLSS to VISN 20 was postponed again because of the COVID-19 pandemic.⁷⁸³ In light of the delays, VHA has adjusted their plans. Integration of DMLSS will continue with initial roll-out to the four RRCs. From there, further integration can take place when conditions are stabilized and associated delays are addressed.⁷⁸⁴

In addition to its incorporation of NCRT, VHA plans to upgrade its inventory systems internally. The Customer Assistance Inventory Module (CAIM) is a pilot solution that VHA plans to put at every facility. The Office of Emergency Management (OEM) and DLA can also interface with the system to streamline and automate the processes and requests for needed supplies.⁷⁸⁵

There are also plans to simulate electronic health records and the Financial Management Business Transformation system into CAIM to see how they all work together.⁷⁸⁶ VHA will be removing the pharmacy module from the DMLSS system and will continue to use a private proprietary system that better suits its needs.⁷⁸⁷

According to VHA leadership, training needs to be improved to use all system components. Reports indicate that the tablets acquired for inventory management were not being used effectively because of inadequate training for staff.⁷⁸⁸

Partnerships in Preparedness

VHA continues to expand and strengthen its portfolio of Federal interagency partnerships. Currently, VHA strategic partnerships are supported through established interagency working groups and governance. Many of these relationships have grown stronger during the pandemic response.⁷⁸⁹

DLA is working to find supplemental commercial warehouse space to increase VHA inventory storage capacity, taking pressure off the RRCs.⁷⁹⁰ Within the parameters of this partnership, VHA will hire four employees to manage the rotation of supply shipments. VHA will also coordinate supply management for VISNs and VISN consortiums.⁷⁹¹ DLA will be working with VHA to establish a management system for the commercial warehouses when they are operational.⁷⁹²

Since the release of Annex A, VHA has participated in the White House COVID-19 interagency supply chain coordination meetings, providing critical input and perspective as the largest integrated health care system.⁷⁹³ This meeting established a bioethical framework for decision-making to prioritize the products that should be produced during a shortage of certain raw materials in manufacturing.⁷⁹⁴

VHA Executive Leadership is developing a strategy to bolster the Nation's ability to produce usable medical products from raw materials. A formal strategy will benefit both VHA and the Nation during future public health contingencies when supply chains are disrupted.⁷⁹⁵

VHA is also a representative in the White House Interagency Policy Committee, which supports the Deputy National Security Advisor and the Domestic Security Policy Council.⁷⁹⁶ This organization looks explicitly at supply chain issues and is developing a national strategy for a resilient public health supply chain.⁷⁹⁷

VHA Fourth Mission Personnel Deployments

VHA is continuing to plan and refine strategies related to emergency response personnel resourcing and deployments. VHA has established the Clinical Deployment Team (CDT) Program, which is intended to support the deployment of highly skilled and trained clinical staff. These clinicians will deploy during public health emergencies to stabilize VHA medical facilities and locations, as determined by future mission parameters and to meet Fourth Mission requests.

Planning for CDTs began in May 2021.⁷⁹⁸ Each VHA regional consortium will maintain a group of 80-100 clinical personnel, broken down into smaller teams of 20 people per VISN. These individuals will be able to deploy and be on location within 72 hours of a mission notification to support primary care, med/surg, emergency rooms and ICUs. To ensure timely deployments and resourcing of emergency mission requirements, up to three teams will be ready to deploy at all times. CDTs will complement the current Disaster Emergency Medical Personnel System

(DEMPS) system, creating robust response capabilities for emergency management situations with clinical needs.⁷⁹⁹

Throughout VHA's COVID-19 response, DEMPS remains the primary program responsible for facilitating deployments of both clinical and non-clinical personnel to support internal VA support missions, public health emergencies and disaster response incidents.⁸⁰⁰ VHA streamlined DEMPS to accelerate the process and make it more usable; during the Annex B period, all deployments went through the DEMPS process.⁸⁰¹ VHA leadership noted the key role of Area Emergency Managers (AEMs) serving in the capacity as on-site deployment representatives, directly accessible to deployed personnel to support and resolve emergent on-site issues.⁸⁰² Due to this direct support to staff, streamlined process, and improved personnel tracking and deployment transparency; VHA leadership observed marked programmatic improvements and reduction in DEMPS deployment issue reports.⁸⁰³

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CONCLUSIONS

As COVID-19 continued to impact the health, economy, culture, politics and everyday life in the United States, VHA sustained its response to the pandemic. The findings, conclusions and recommendations from the initial VHA COVID-19 Response Report and Annex A remain valid. Examination of this period of the response—January 1, 2021, to July 31, 2021—has led to some additional findings, conclusions and recommendations as detailed below.

Overall Response

VHA sustained a well-coordinated response across its 18 VISNs while playing a strong role in the Federal response and contributing significantly to national strategies to enhance preparedness. The mass vaccination campaign was planned and executed with fidelity, including the provision of vaccinations to a significant number of the U.S. population.

This period began in January 2021 as the Nation was near the peak of the largest wave of the pandemic. National daily totals for new cases, hospital admissions and deaths reached the highest points of the pandemic thus far. The spread of COVID-19 and the number of hospitalizations and deaths declined through spring 2021 and reached a low point in June 2021. As that decline was occurring, variants of the virus responsible for COVID-19 became dominant; first, the Alpha variant and then the Delta variant became the dominant form in the United States. As this period was ending in late July 2021, a wave of the Delta variant was accelerating.

As this period of the pandemic began, two COVID-19 vaccines were in the initial phases of distribution and administration. In response to the winter wave of early 2021, VHA provided health care for Veterans and conducted Fourth Mission activities. VHA devoted considerable focus and significant resources to the vaccination campaign. This effort included focused communications to Veterans about the vaccines and active outreach to individual Veterans about opportunities for vaccination. VHA applied special focus to communication with minority Veterans in anticipation of concerns that could diminish acceptance of vaccination among these Veterans.

From the earliest phases of the vaccination campaign, VHA emphasized vaccination of staff. In July 2021, VHA became the first Federal agency and one of the first major health systems to require employees to attest to vaccination.

As the spread of COVID-19 declined through spring 2021 and vaccination progressed, VHA focused on access to care for non-COVID conditions, particularly care that had been deferred during previous waves of the pandemic. Although the volume of in-person care increased, VHA continued to use virtual care tools much more frequently than before the pandemic.

Throughout the Annex B Period, VHA's Healthcare Operations Center provided daily operational updates to its 18 VISNs. The National Surveillance Tool provided system-wide access to clinical data that was central to the operational coordination. Operations updates focused heavily on the mass vaccination effort, including regular presentation of data on vaccine distribution and administration. Across the networks, activation of VA Medical Center surge plans for bed expansion was not required during this period of the response, except for the surge plans already in effect.

Through the SAVE LIVES Act and FEMA Mission Assignments, VHA administered more than 80,000 additional vaccinations during the Annex B period, adding to the 2.5 million vaccinations VHA had already administered to Veterans and staff. VHA continued to deploy volunteer staff during this period, but sourcing available volunteers for deployment became a significant challenge in the long-running pandemic response.

Testing

Finding: VHA effectively employed and sustained evidence-based guidelines for the use of COVID-19 testing tools for diagnosis, screening and monitoring.

Finding: VHA generated significant contributions to national pandemic surveillance and preparedness through expanding genomic sequencing and participating in the national task force on pandemic testing.

Context: At the outset of the Annex B Period in January 2021, the United States was experiencing a large wave of COVID-19. In autumn 2020, availability improved for

the devices and supplies needed for the type of test in most common use—nucleic acid amplification testing via PCR. Additionally, FDA had granted EUA to several devices for rapid antigen testing, qualitative tests of lesser sensitivity that yielded results within minutes. During this period, devices for sequencing the genome of the virus responsible for COVID-19 also came into frequent use. Overall, this increased access to testing devices and supplies made testing a useful tool in the response during this period.

The array of available tests (extending beyond PCR and antigen tests) and evolving evidence correlating test results with clinical status proved to be a challenge for clinicians and public health professionals nationally as they worked to establish clinical and public health strategies for the best evidence-based use of testing technologies.

Conclusions: VHA recognized the importance of leveraging the improved availability of testing for COVID-19 and also recognized the need for evidence-based guidelines. VHA established a working group of subject matter experts who developed the Guidebook on COVID-19 Testing V2.0 (“the Guidebook”) providing scenario-based guidelines for use of specific types of tests for diagnosis, screening and monitoring. As evidence evolved, the workgroup published periodic updates to the guidelines, correlating testing results with clinically important factors. The Guidebook provided VHA medical professionals with the latest evidence-based use of testing technologies.

VHA joined the national effort to use genomic sequencing to monitor the impact of COVID-19 variants on public health for the U.S. population. VHA expanded its capacity for sequencing the genome of the virus responsible for COVID-19 by establishing the SeqFORCE program. At the end of the Annex B Period, the network of VHA SeqFORCE laboratories was building genomic sequencing capacity to targeted volumes. VHA incorporated the criteria for submission of sequencing specimens into updates to the Guidebook. VHA’s contributions to the national sequencing effort will be important to national surveillance for variants and the risk categorization of identified variants.

One of the most critical lessons VHA learned from the pandemic was the importance of testing availability in the early phases of pandemic response. VHA contributed significantly to the national effort to address this lesson, which is particularly relevant for a newly emerged pathogen such as the virus responsible for COVID-19. VHA participated in a Federal task force guiding the development of a strategy to ensure

that testing technology, capacity and guidelines are in place for future pandemic response.

Research and Innovation

Finding: VHA’s affiliations, capacity for clinical research and data management continued to provide major contributions to the evolution of knowledge essential to the national COVID-19 response.

Finding: VHA’s process for providing external researchers with access to updated clinical data is contributing to knowledge about COVID-19 relevant to the health of Veterans and important to scientific knowledge of the disease.

Context: The pandemic reached its first anniversary during this period. U.S. progress against this disease included the continued search for the most effective therapeutics, concern about the long-term health effects of COVID-19 and the use of mass vaccination with vaccines under FDA EUA. Extensive research is needed—nationally and internationally—to inform approaches to prevention, diagnosis, treatment and mitigation of the impacts on long-term health.

Conclusions: VHA continued to apply its capacity for clinical research to the questions important to the COVID-19 response. This included continuation of clinical trials for vaccines; managing access to VA health data for external clinical research via the COVID-19 SDR program, expansion of clinical research on therapeutics and expanded research into the health impacts of infection by COVID-19. The clinical research into health impacts included a focus on the post-infection impacts to health, often referred to as “Long COVID.” The National Surveillance Tool updates to data sets for research continued to enhance the value of VA data for clinical research.

During this period of the pandemic, VHA initiated a research program focused on genomic variants of the virus responsible for COVID-19, the VA SeqCURE. This collaborative research approach to genomic variants will prove important to the ongoing COVID-19 response and also national preparedness for future public health responses to wide-spread disease.

Through the work of its Innovation Center, VHA continues its pursuit of innovations, such as additive manufacturing, to enhance resilience to supply chain disruptions and the integration of digital tools into Veteran health services.

Clinical Services

Finding: VHA increased its in-person care between pandemic waves while also sustaining virtual care tools, based on the successful use and acceptance by Veterans.

Finding: Admissions and daily census for residential rehabilitation treatment programs for mental health and substance abuse conditions lagged behind pre-pandemic levels throughout the Annex B Period.

Finding: VHA initiated actions to improve the capacity of CCCs to meet local surges in demand through networked operations, enabling distribution of calls among centers for timely response. The initiative is also making Veteran health records accessible to CCC staff via CPRS to inform the interactions with Veterans and caregivers.

Context: As the nation emerged from the severe winter wave of COVID-19, health systems worked to help patients catch up on deferred care. Health systems often continued to use some of the newer methods adopted during the pandemic waves, most notably virtual care. Health systems also focused on the mass vaccination campaign, which included outreach to patients with information about the vaccines to increase acceptance of vaccination.

Conclusions: As the pandemic wave subsided in spring 2021, VHA clinical services focused on access to care for Veterans who needed to catch up on deferred care and also focused on support for the mass vaccination campaign.

VHA effectively increased its provision of in-person care, including a return approaching pre-pandemic surgical case volume. The in-person care and surgical volume began to diminish again in July 2021 as the Delta variant spread. One important aspect of in-person care that remained significantly below pre-pandemic levels during this period was mental health residential rehabilitation treatment. Resumption of this form of care for Veterans who require therapy that is more

intensive than outpatient care will require safety protocols for the ongoing presence of COVID-19 in the community.

VHA sustained its use of virtual care even as in-person care increased. The successful experience with virtual care and Veteran acceptance during pandemic waves led VHA to broaden its use across specialty care. Additionally, VHA continued to develop its strategy to use a broader array of virtual care tools. These tools will be integrated with the electronic health record that is currently being implemented. As additional tools are developed, full integration of virtual care will require incorporation into clinical team workflows, clinical team role definitions and clinical team High Reliability collaboration processes.

During this period of the response, VHA initiated actions to address issues identified early in the pandemic regarding CCCs. CCCs needed assistance in managing capacity and capability during surges in demand. VHA adopted a model that will network the CCCs in VISNs and is acquiring software to make clinical information from the patient record available for CCC interaction with Veterans. Measuring the impacts of these actions will help VHA ensure that the intended effects are achieved.

During this period, researchers published studies using VHA data. Some of these studies focused on identifying post-infection health impacts of COVID-19. Several VAMCs established clinics focused on care for Veterans with post-infection sequelae, also known as “Long COVID.” As research provides more specific and actionable knowledge of this condition, clinical guidelines for delivery of care may become possible. As of the Annex B Period, the approach was to evaluate and manage post-infection health conditions in accordance with current standards of care.

Patient Services

Finding: The sustained pandemic response has imposed stress on the workforce, most evident in the nursing workforce.

Context: During this period of the pandemic, epidemiologists began to predict that the coronavirus responsible for COVID-19 would become endemic in the world, and the public health focus shifted from eradication to control.

Throughout the three waves of COVID-19, communities have experienced surges in the demand for hospital care. This impacted health care organizations in a number of

ways, including staff wellbeing. Health care workers reported fatigue and frustration. Health care leaders reported signs of impact to the nursing workforce, including greater turnover and reports of high stress levels at the point of care.

VHA's response to the pandemic has placed heavy demand on its nursing force. Most aspects of VHA's COVID-19 response hinge on nursing care, such as bed expansion, critical care expansion, vaccination, Fourth Mission deployments and support to caregivers.

Conclusions: VHA has increased the overall size of its nursing workforce during the pandemic, but the force shows signs of stress. VHA data shows that resignations and retirements among nurses and nursing assistants increased significantly in 2021 compared to the two previous years.

During this period of the pandemic, the Travel Nurse Corps proved effective in a new role—support to caregivers. Because this has proven successful, VHA began expanding the Travel Nurse Corps with new positions and a recruiting campaign.

VHA leaders have recognized the stress on the clinical force, noting particular concern about the nursing and nursing assistant workforce. VHA has formulated a strategy to improve and sustain recruiting and retention by offering a diversity of roles for nurses, mid-career educational opportunities and financial incentives. Additionally, VHA is applying its Whole Health initiative to employee wellness and piloting wellness initiatives modeled after successful practices in industry.

Overall, the extended response to the pandemic has imposed significant demands on the clinical workforce, and the most visible impact is on the nursing workforce. Strategies to control operational stress and support wellness in the clinical workforce will be important for VHA into the future.

Fourth Mission

Finding: VHA effectively adapted its Fourth Mission response to the national mass vaccination campaign and successfully delivered vaccines to over 80,000 people in communities and in other Federal agencies, including remote locations in the United States.

Context: In January 2021, at the beginning of the Annex B Period, VHA was conducting support in response to 23 FEMA Mission Assignments. By the end of July 2021, VHA had responded to 31 additional Mission Assignments across 22 states,

primarily providing vaccination support. This brought the total number of Mission Assignments to which VHA had responded to 158 over the entire duration of the pandemic. Some Mission Assignments contain multiple task orders for response to different locations; therefore, the actual number of responses is significantly greater than the Mission Assignment total.

Since the spread of COVID-19 declined significantly in spring 2021, VAMCs did not initiate new activations of surge plans during this period of the response. New deployments of the VHA Mobile intensive care units (ICUs) or medical-surgical equipment sets were not required during this period. At the end of July 2021, as the spread of the Delta variant accelerated, VHA began receiving Mission Assignments for response to COVID-19 outbreaks in selected communities.

Fourth Mission activity during this period included support to six Federal agencies to vaccinate government personnel at a variety of locations, including customs and border patrol stations.

Conclusions: VHA successfully adapted its Fourth Mission responses to meet the demand for vaccination support. VHA succeeded in obtaining sufficient vaccine supply to meet all demand for vaccination. VISNs conducted the responses, including outreach to Federal agency personnel and Veterans at remote locations. The remote outreach posed significant logistical challenges for the networks, but all responses were completed.

The complexities of the interagency support (as noted in the Vaccination Conclusions) highlighted the benefit of adding that aspect of mass vaccination to the planning framework for future response.

In addition to its COVID-19 Mission Assignments, VHA responded to natural disasters during this period, including hurricanes and wildfires. VHA OEM continues to prepare for the possibility of unexpected emergency situations during the pandemic.

Health Equity

Finding: VHA outreach to minority groups of Veterans yielded higher levels of vaccine acceptance among these groups than projected. Low vaccination rates among rural Veterans suggest low vaccine acceptance within this group.

Context: During this period, the pandemic continued to show evidence of health disparity in the United States. Rates of COVID-19 infection, mortality and vaccination varied significantly by race, geography, economic circumstance, occupation and proximity to health care.

Conclusions: VHA data during this period of the pandemic continued to reflect the national disparity in rates of COVID-19 infection among racial groups, with Hispanic Veterans experiencing higher rates of COVID-19 infection than White and Black Veterans. Minority Veterans have higher mortality rates—an indicator of ongoing disparities associated with COVID-19. Throughout the pandemic, Black Veterans have experienced the highest population mortality rate among all Veteran groups.

The planning for mass vaccination of Veterans included outreach to educate Veterans about the vaccines and provide opportunities for Veterans to pose questions to VHA clinicians. Special focus was applied to reaching minority groups of Veterans in anticipation of vaccine hesitancy. Special focus was also applied to making Veterans in remote locations aware of vaccination options. VHA data suggests that these efforts were successful among minority groups of Veterans; vaccination rates among Black and Hispanic Veterans are higher than those of White Veterans. VHA data shows lower vaccine acceptance among rural Veterans, consistent with national data.

Overall, the outreach to minority groups of Veterans to promote vaccine knowledge and increase vaccine acceptance was effective. Additional strategies will be needed to attain a similar impact among rural Veterans.

Elder Care

Finding: VHA processes for protecting CLC residents during the pandemic have succeeded in keeping rates of CLC-onset COVID-19 at the same rate as for the population of enrolled Veterans over 65.

Finding: VHA has demonstrated that telehealth usage for care to elderly Veterans is beneficial and feasible with the right technical support.

Finding: Continued research to identify effective preventive and post-exposure therapeutics will be an important augmentation to vaccination in mitigating the impact of an infectious disease outbreak on elderly Veterans.

Context: From the outset of the COVID-19 pandemic, the tragic effect on the elderly shocked the nation. It was particularly grievous among those in long-term-care facilities before the vaccine was available.

As this Annex B Period began, in January 2021, the pandemic wave in progress took a heavy toll on community nursing homes and some SVHs. Communities often lacked health care resources to respond to these outbreaks, leading many states to request Federal assistance.

Residents in long-term care received top priority in the national vaccination campaign, which had a dramatically positive impact with diminished case numbers by early spring 2021. The vaccination percentage of nursing home staff in many localities remained below 50% by summer 2021. In July 2021, as the spread of the Delta variant accelerated in several regions of the Nation, the number of COVID-19 cases in long-term-care facilities began to rise.

Conclusions: As seen in the U.S. population, older Veterans have been at the greatest risk of severe illness from the virus. A total of 90% of Veteran deaths from COVID-19 occurred in Veterans 65 and older. As reported in the initial VHA COVID-19 Response Report, the recognition that people with asymptomatic infections contribute to the spread of COVID-19 led to the realization that protecting residents in long-term care would be challenging.

VHA's protective actions for residents in CLCs evolved during the initial wave in spring 2020 and thereafter. The actions included vaccination, limitations on exposure to visitors and staff, cohorting residents and staff to limit exposures and screening staff for infection. VHA achieved very high vaccination percentages among CLC residents early in the vaccination campaign.

VHA also emphasized access to integrated health care services provided by qualified staff to elderly Veterans and CLC residents. This access is on-site or proximate for CLC residents, and VHA has used telehealth to sustain care to elderly Veterans while limiting their public exposure. Overall, VHA has been successful in keeping the rate of COVID-19 among CLC residents (CLC onset) at approximately the same rate as the entire population of enrolled Veterans over 65.

Although the rates of COVID-19 infection for residents of SVHs are not available, VHA's experience with response to SVHs under its Fourth Mission strongly suggests that the approach applied in CLCs would enhance the protection of elderly Veterans in SVHs. During this pandemic, VHA has gained legislative support to enhance its monitoring and support of SVHs.

Overall, VHA's experience protecting residents in CLCs and elderly Veterans in the community, coupled with their capacity for clinical research, presents an opportunity for VHA to inform national efforts to improve health services to the elderly U.S. population. Emphasis on outreach to the home to enable more elderly people to remain in their homes will be particularly important. For long-term-care residents, it will be important to have processes of care and prevention in place to mitigate the risk of infectious disease.

Vaccinations

Finding: VHA planned and executed a successful mass vaccination campaign that vaccinated over 2.5 million people during this period while sustaining all other aspects of the pandemic response and Veteran health services.

Finding: The pharmacy system used for tracking vaccine inventory proved effective, but sustaining accurate data was laborious and required high levels of manual data entry.

Finding: Planning for the mass vaccination campaign was highly effective but did not anticipate the complexity of interagency support.

Finding: The inability to access state vaccination data left VHA with an incomplete picture of the vaccination status of enrolled Veterans.

Context: In December 2020, the United States began distributing the Pfizer and Moderna vaccines under FDA EUA for people 18 and older. CDC divided the Nation into jurisdictions and directed the distribution of vaccine to the jurisdictions for administration in accordance with CDC phases for prioritization of recipients. In

February 2021, the J&J vaccine gained FDA EUA for people 18 and older and was added to the distribution of vaccines. In May 2021, the Pfizer vaccine gained EUA for people 12-18 years old.

The Federal government orchestrated a national education effort on the vaccines and the importance of vaccination in ending the pandemic. As mass vaccinations reached peak levels in April 2021 and then declined in volume by June 2021, variability in vaccine acceptance among the U.S. population became evident. By the end of July 2021, vaccine supply exceeded demand in the United States, and 49% of the U.S. population was fully vaccinated against COVID-19.

As the Delta wave accelerated in July 2021, the Federal government and public health agencies renewed emphasis on the importance of vaccination in communications to the public, but the daily rate of vaccinations in the Nation increased only marginally.

Conclusions: As reported in Annex A, VHA's planning for distribution and administration of vaccine effectively prepared for all storage and handling requirements, enabling VHA to accept vaccine across all 18 VISNs as a designated jurisdiction without delay. VHA guidance on storage and handling was effective in preparing the networks to manage distributed vaccine.

VHA used a pharmacy system to track vaccine inventories. Although this proved effective, sustaining accurate data in the system for each site proved laborious and required heavy volumes of manual data entry.

VHA networks used their experience with annual vaccinations of Veterans and staff against influenza to conduct mass vaccinations with the COVID-19 vaccines. The daily communications hosted by the VHA Healthcare Operations Center enabled the networks to share techniques for reaching and vaccinating Veterans, such as drive-in vaccination sites. Overall, VHA's outreach to Veterans for education, scheduling and vaccine administration was effective.

VHA has vaccinated more than 2.3 million Veterans; in addition, many Veterans received vaccines from community sources. VHA did not have access to state vaccination data and therefore was unable to determine which Veterans were vaccinated by community providers. This led to inefficiencies such as outreach to individual Veterans already vaccinated and kept VHA from knowing the precise vaccination levels of its enrolled Veterans.

The VHA vaccination planning anticipated the potential for vaccination support to local communities, which occurred under the Fourth Mission. Legislation during the period expanded eligibility for COVID-19 vaccination by VA, and VHA successfully met the demand by vaccinating more than 79,000 additional people. The vaccination planning did not anticipate the complexities of vaccination support to other governmental agencies via interagency agreements. Although VHA successfully met all mission assignments and fulfilled all interagency agreements with vaccination support, the networks encountered significant challenges in the interagency support with remote geography, scheduling, logistics, handling of privacy data and others. Despite the challenges, VHA vaccinated more than 54,000 people in other Government agencies.

From the outset, VHA's vaccination campaign included staff in the priority phases consistent with CDC guidelines. VHA leadership actively encouraged vaccination among staff as the most effective protection against COVID-19 for staff members and the Veterans they serve. As the vaccination campaign proceeded, VHA could gain visibility on the number of staff vaccinated by outside sources only through self-reporting. In July 2021, VHA became one of the first large U.S. health care systems to require vaccination of clinical staff. Later in July 2021, the President issued an Executive Order requiring Federal employees to attest to vaccination status. VHA and VA played a significant role in leading U.S. health systems to require vaccination of staff as the most effective means of protecting health care workers and those they serve.

Overall, the mass vaccination campaign by VHA during this period was well-planned and successfully vaccinated over 2.5 million people. All challenges were met, and the lessons learned should inform planning templates for future events. The successful conduct of this vaccination effort while sustaining the COVID-19 response and opening up access for previously deferred care is noteworthy.

Preparedness

Finding: VHA established the four permanent RRCs in partnership with DLA although the long-term roles of the RRCs are still in development.

Finding: The volunteer deployment system for VHA continues to show evidence of stress from the prolonged national response.

Context: Although access to personal protective equipment (PPE) and other pandemic response supplies improved during this period, supply chain disruptions continued. Underlying factors continued to diminish the resilience of the U.S. supply chain early in the pandemic.

During the Annex B Period, Fourth Mission efforts focused on vaccination support. Because most FEMA Mission Assignments did not require deployment of critical care staff to provide care in a community in crisis, the pressure on the volunteer deployment process abated. However, in July 2021, as the spread of the Delta variant accelerated in several regions, Fourth Mission requests for support to long-term-care facilities resumed.

Conclusions: At the end of July 2021, VHA was seeing evidence of difficulties sourcing volunteer staff for deployment in response to Mission Assignments for nursing home support. Although all Mission Assignments were fulfilled, challenges indicated that the sustained pandemic response was adding stress to the VHA volunteer deployment process.

In response, VHA developed a plan to deploy clinical deployment teams that were similar to those proposed in Annex A but fewer in number. The strategy is pending governance approval and is proposed as a demonstration of the concept of creating a cadre of staff committed and prepared for deployment. VHA's capability to reliably deploy critical care staff with equipment on short notice will be important to future Fourth Mission efforts. The concept could also provide deployable teams that are trained and ready to provide care with deployable equipment sets. Ideally, the concept would also alleviate the challenges associated with degradation of critical care staffing at the medical centers from which teams are sourced.

During this period of the pandemic, VHA made significant progress toward permanent RRCs as a strategic initiative to improve supply chain resilience. The four permanent RRCs are operational and supported via agreements with DLA. Work is in progress to define the precise roles of the RRCs, which will provide supply and equipment support to health care operations in the network while maintaining certain supplies in rotating reserve for emergency response. VHA is considering a potential role for RRCs in managing equipment for use with Mobile ICUs and med/surg equipment sets. Continued progress on the RRC establishment in partnership with DLA will be important to enhanced resilience for the VHA supply chain. Coupling the RRC initiative with overall supply chain management modernization will be an important enhancement to preparedness.

Mental Health

Finding: VHA successfully adapted its processes to sustain access to care while mitigating the risk of Veteran exposure to COVID-19. This adaptation included incorporating factors related to COVID-19 infection into the monitoring of risk indicators for suicide.

Finding: VHA successfully employed telehealth to provide care during the pandemic. Positive reports regarding telehealth usage in group therapy will benefit from studies correlating this approach with outcomes.

Context: The pandemic prompted providers to adjust processes of care across all specialties. Mental health is a specialty in which care can seldom be deferred, so VHA used virtual care to the extent possible, allowing for the protection of patients during waves of the pandemic. As this period of the pandemic began, the Nation was near the peak of a wave primarily across the south and southwest, where Veteran populations are large, requiring increased use of virtual care to manage risk of Veteran exposure to COVID-19.

Through spring 2021, vaccinations were being administered to Veterans. VHA was focused on providing good access to care so Veterans could catch up on deferred in-person care.

The stress associated with the pandemic and the increased use of virtual care prompted concern about sustaining effective mental health programs such as suicide prevention. The concern also extended to management of conditions that benefit from in-person interaction.

Conclusions: VHA sustained actions in its suicide prevention strategy through this period of the pandemic and preceding periods. This required adaptive actions in several respects, as described in the "2021 National Veteran Suicide Prevention Annual Report." The adaptations included predictive analytic tools specific to Veterans with COVID-19, prompted by a study that identified an association between COVID-19 and suicidal thoughts. During this period of the response VHA monitored High Risk Flags among Veterans to identify Veterans for outreach using response actions most appropriate to the circumstance of the individual Veteran.

VHA mental health providers used a tool known as REACH VET to monitor for indicators of suicide risk among Veterans under their care. As new cases declined, risk indicators dropped among Veterans in the REACH VET tool. In late spring 2021, the number of Veterans identified as high-risk began to increase again. VHA providers used the risk indications to guide outreach to individual Veterans.

VHA mental health providers continued to employ virtual health tools during this phase of the pandemic, building on the experience garnered during previous waves. Emphasis on Veteran access to same-day mental health services remained a priority throughout the response, including the use of embedded behavioral health providers in primary care clinics. VHA accumulated experience with group therapy via telehealth during the pandemic and has a sustained interest in this use of telehealth based on this experience.

VHA continued to move forward with strategies to enhance mental health services to Veterans, including a new Veterans Crisis Line and actions authorized by the Hannon Act of 2019 expanding mental health services to Veterans.

Overall, VHA effectively adjusted mental health services to sustain access during the pandemic while moving forward with strategies for enhanced mental health services. VHA also adjusted processes of care and incorporated COVID-19 into monitoring criteria for identifying Veterans at risk for suicide.

The positive experience reported with increased use of telehealth for group therapy will warrant studies to assess correlations of telehealth with group therapy outcomes.

Ethics

Finding: Early and sustained engagement by the NCEHC with its network representatives provided ready consultative support and guidelines that mitigated individual moral distress during the response.

Context: The pandemic response presented health care systems with an array of circumstances associated with ethical questions. Many of the questions related to surges in demand for hospital care, leading to expansion of capacity into contingency environments that were not normally used for critical care. Other ethics questions stemmed from supply chain shortfalls and the potential need to extend use of PPE or prioritize certain treatment modalities. Health care personnel in hospitals

experiencing high volumes of COVID-19 care frequently found themselves helping families make decisions about sustaining life support measures.

Additionally, health care personnel were working in conditions that posed more personal hazard than usual and had concerns about carrying the pathogen to family members at home.

Conclusions: VHA engaged NCEHC early in the pandemic and has sustained engagement with NCEHC throughout VHA's COVID-19 response.⁸⁰⁴ VHA leadership aimed to reduce the moral distress on individual health care providers during the public health emergency.

NCEHC effectively engaged its representatives in the VISNs and VAMCs to identify questions, facilitate discussions and provide guidelines. Early in the pandemic, when supply chain disruptions were most acute, most questions to NCEHC focused on the allocation of scarce resources. Later in the pandemic, the questions touched on an array of issues, such as obtaining informed consent remotely, vaccine requirements for workers and vaccine prioritization.

The early engagement of NCEHC with its network of field representatives proved very helpful to the response and generated a steady flow of questions. Because of the importance of the issues underlying the questions, the outreach and accessibility NCEHC provided was beneficial in reducing individual moral distress.

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RECOMMENDATIONS

The following recommendations supplement those in the Initial Report and Annex A:

1. Vaccination

- a. Develop or procure a system capable of VHA-wide monitoring and managing vaccine inventory via automated processes.
- b. Incorporate interagency support into planning templates for mass vaccinations, addressing the logistical, scheduling, transportation and data management aspects of this support.
- c. Pursue legislative action to enable VA to obtain vaccination data on Veterans from state vaccination data.

2. Elder Care

- a. Expand research to identify effective COVID-19 prevention and intervention measures for elderly Veterans residing at home or in long-term-care facilities
- b. Develop an information system to facilitate monitoring of State Veterans Homes for indicators of infectious disease risk, combining periodic assessment results with epidemiologic community data.

3. Health Equity

- a. Develop a strategy to improve vaccine acceptance among rural Veterans, informed by a study of factors contributing to hesitancy or resistance to vaccination.

4. Clinical Services

- a. Assess the factors contributing to the diminished use of Mental Health Residential Rehabilitation Treatment Programs, compared with pre-pandemic rates. Identify Veteran needs and match needs with access.

5. Patient Services Workforce

- a. Develop a comprehensive strategy with metrics and actions to monitor and mitigate stress on the health care workforce, facilitate wellness and enhance retention.

6. Preparedness

- a. Define the objectives and permanent roles of Regional Readiness Centers in support of preparedness, Fourth Mission and day-to-day health care operations.

APPENDICES

Appendix A: Stakeholder Interviews

Table 14.1 outlines interviews conducted by the COVID-19 Response Reporting Team that contributed to Annex B. Interviewees' positions are as of July 31, 2021.

Table 14.1: Stakeholder Interviews

Date of Interview	Interviewee Name	Position
August 12, 2021	Dr. Ernest Moy	Executive Director, Office of Health Equity, VHA
August 16, 2021	Dr. Grant Huang	Deputy Chief Research & Development Officer, VHA Enterprise Optimization
August 19, 2021	Dr. Toby Schonfeld	Executive Director, National Center for Ethics in Health Care
August 19, 2021	Dr. Scotte Hartronft	Executive Director, Office of Geriatrics & Extended Care
August 20, 2021	Dr. Jane Kim	Chief Consultant, Preventive Medicine, NCP
August 20, 2021	Dr. Carolyn Clancy	Assistant Under Secretary for Health for Discovery, Education and Affiliate Networks, VHA
August 20, 2021	Dr. Larry Mole	Executive Director, VHA Office of Public Health
August 23, 2021	Ms. Tammy Czarnecki	Assistant Deputy Under Secretary for Health for Administrative Operations, VHA
August 24, 2021	Mr. Juan Cosme	Director of Operations, Plans and Readiness, VHA
August 24, 2021	Ms. Renee Oshinski	Assistant Under Secretary for Health for Operations, VHA
August 25, 2021	Dr. Beth Taylor	Assistant Under Secretary for Health for Patient Care Services (Chief Nursing Officer), VHA
August 27, 2021	Dr. Kameron Matthews	Assistant Under Secretary for Health for Clinical Services, VHA
August 31, 2021	Dr. Susan Kirsh	Acting Assistant Deputy Under Secretary for Health for Access to Care, VHA
August 31, 2021	Ms. Deb Kramer	Acting Assistant Under Secretary for Health for Support Services, VHA
September 1, 2021	Dr. Thomas Klobucar	Executive Director, VHA Office of Rural Health
September 1, 2021	Ms. Nancy Wilck	Director, Connected Health and Implementation Strategies–VHA Office of Connected Care
September 1, 2021	Dr. Kevin Galpin	Executive Director, VA Telehealth Services
September 2, 2021	Dr. Lisa Kearney	Executive Director of Veterans Crisis Line, Office of Mental Health and Suicide Prevention
September 2, 2021	Dr. Sophie Califano	Deputy Chief Consultant for Preventive Medicine, VHA
September 3, 2021	Dr. Jessica Wang-Rodriguez	Acting Director, VA National Pathology and Laboratory Medicine Program Office

Date of Interview	Interviewee Name	Position
September 9, 2021	Dr. Jennifer Martin	Deputy Chief Consultant, Pharmacy Benefits Management Services, VHA
September 9, 2021	Dr. Ryan Vega	Chief Officer, Office of Healthcare Innovation and Learning, VHA
September 10, 2021	Dr. Jacqueline Cook	Medical Advisor for the Office of Occupational Safety and Health, VHA

Appendix B: VHA Employee and Veteran Vaccinations by VISN

Table 15.1 shows employee and Veteran vaccinations, broken out by VISN. This table includes vaccines administered by VHA and any vaccinations administered outside VHA for which VHA had data. These counts are for individuals who have received at least one dose of the vaccine.

Employee numbers are as of July 26, 2021, which is before VA mandated the COVID-19 vaccine for Title 38 VA health care personnel (on July 28, 2021). The total number of employees vaccinated on this table is incomplete as employees were not yet required to report outside vaccinations.

Table 15.1: VHA Employee and Veteran Vaccinations by VISN
December 14, 2020 – July 31, 2021

VISN	Employees	% of Total Employees	Veterans	% of Total Veterans
1	Vaccinated: 12,290	71.69%	Vaccinated: 147,635	59.16%
	Base Pop.: 17,143		Base Pop.: 249,544	
2	Vaccinated: 12,898	66.28%	Vaccinated: 158,186	56.18%
	Base Pop.: 19,460		Base Pop.: 281,563	
4	Vaccinated: 10,883	68.42%	Vaccinated: 166,042	58.41%
	Base Pop.: 15,906		Base Pop.: 284,268	
5	Vaccinated: 8,122	62.60%	Vaccinated: 105,576	51.78%
	Base Pop.: 12,974		Base Pop.: 203,880	
6	Vaccinated: 13,414	63.87%	Vaccinated: 193,457	48.07%
	Base Pop.: 21,001		Base Pop.: 402,481	
7	Vaccinated: 14,452	62.58%	Vaccinated: 266,491	57.27%
	Base Pop.: 23,094		Base Pop.: 465,357	
8	Vaccinated: 21,336	63.96%	Vaccinated: 357,264	60.70%
	Base Pop.: 33,358		Base Pop.: 588,591	
9	Vaccinated: 9,242	62.14%	Vaccinated: 125,875	44.82%
	Base Pop.: 14,873		Base Pop.: 280,841	
10	Vaccinated: 17,071	62.31%	Vaccinated: 235,101	47.17%
	Base Pop.: 27,395		Base Pop.: 498,448	
12	Vaccinated: 13,497	65.27%	Vaccinated: 153,239	56.38%
	Base Pop.: 20,679		Base Pop.: 271,792	

VISN	Employees	% of Total Employees	Veterans	% of Total Veterans
15	Vaccinated: 8,577	61.26%	Vaccinated: 112,377	45.72%
	Base Pop.: 14,001		Base Pop.: 245,783	
16	Vaccinated: 14,223	63.88%	Vaccinated: 208,220	48.49%
	Base Pop.: 22,266		Base Pop.: 429,386	
17	Vaccinated: 13,221	62.85%	Vaccinated: 240,303	55.06%
	Base Pop.: 21,035		Base Pop.: 436,458	
19	Vaccinated: 9,994	61.95%	Vaccinated: 151,040	47.18%
	Base Pop.: 16,132		Base Pop.: 320,111	
20	Vaccinated: 11,213	66.94%	Vaccinated: 142,378	43.25%
	Base Pop.: 16,752		Base Pop.: 329,171	
21	Vaccinated: 15,611	69.36%	Vaccinated: 188,003	55.90%
	Base Pop.: 22,506		Base Pop.: 336,310	
22	Vaccinated: 19,070	67.55%	Vaccinated: 293,757	57.64%
	Base Pop.: 28,232		Base Pop.: 509,653	
23	Vaccinated: 11,288	65.80%	Vaccinated: 195,703	60.30%
	Base Pop.: 17,156		Base Pop.: 324,535	
VHACO	Vaccinated: 9,305	49.75%	Vaccinated: -	-
	Base Pop.: 18,703		Base Pop.: -	
Total	Vaccinated: 245,707	64.21%	Vaccinated: 3,440,647	53.28%
	Base Pop.: 382,666		Base Pop.: 6,458,172	

Source: Employee vaccination data from VSSC, CDW Database, VHA, accessed on 9/20/2021; Veteran Vaccinations data from VSSC, CDW Database, VHA, accessed 8/27/2021; Veterans Using VHA Services Data, ARC, VHA, 8/27/2021.

Note: Veterans Using VHA Services are Veterans who used VHA services between April 1, 2019 and September 30, 2020. Veterans who died prior to February 1, 2020 were excluded from the Veterans Using VHA Services definition for this report in order to quantify Veterans at risk for COVID-19. Veteran vaccinations counts are for Veterans Using VHA Services who have received at least one vaccination dose as of 7/31/2021.

Vaccination numbers may change depending on when the data is accessed as VHA may retroactively update Veterans vaccination status. Employees numbers are as of 7/26/2021, which is before the VA mandated the COVID-19 Vaccine on 7/28/2021 for Title 38 Department of Veterans Affairs (VA) health care personnel.

Employee Vaccinations counts are for employees who have received at least one vaccination dose. Only paid VHA employees are included in these numbers; contractors and volunteers are VISNs are not included. VHA Central Office (VHACO) vaccination percentages are lower in this table compared to other VISNs is likely due to many remote workers and the COVID-19 Vaccination and reporting requirements not mandated until 7/28/2021.

Appendix C: Fourth Mission Activities

Table 16.1 displays new COVID-19-related FEMA Mission Assignments and other IAAs that were initiated during the Annex B Period.

Table 16.1: FEMA Mission Assignments and Other IAAs, January 1, 2021 - July 31, 2021

VISN/ Agency	MA Type	Support Type	Description	Location	Start Date	End Date
USA	Vaccination Support	Vaccinations	Type 4 Team vaccination support	Washington, D.C.	1/27/2021	2/26/2021
V1	Vaccination Support	Vaccinations	6 vaccination staff	Middletown, RI	2/23/2021	5/8/2021
V1	Vaccination Support	Staffing Supplement	1 pharmacist	Providence, RI	5/18/2021	6/2/2021
V2	Vaccination Support	Vaccinations	6 pharmacists and 6 pharmacy technicians	Multiple Cities in NJ	1/29/2021	6/30/2021
V2	Vaccination Support	Vaccinations	4 pharmacists and 6 pharmacy technicians	Multiple Cities in NJ	1/29/2021	6/30/2021
V2	Vaccination Support	Vaccinations	Up to 4 Nurses at each location	Multiple Cities in NY	2/25/2021	5/28/2021
V4	Vaccination Support	Vaccinations	Type 4 Team vaccination support	Multiple Cities in NJ	2/25/2021	5/10/2021
V4	Vaccination Support	Staffing Supplement	20 Registered Nurses/Licensed Practical Nurses	Philadelphia, PA	4/7/2021	5/27/2021
V4	Vaccination Support	Staffing Supplement	10 Registered Nurses	Philadelphia, PA	4/7/2021	5/27/2021
V5	Vaccination Support	Vaccinations	Vaccination support at one-day homeless vaccination event	Washington, D.C.	6/3/2021	6/3/2021
V6	Vaccination Support	Staffing Supplement	10 Registered Nurses/Licensed Practical Nurses/Certified Nursing Assistants	Dover, DE	7/9/2021	7/10/2021
V8	COVID Care	Staffing Supplement	Up to 15 physicians/advanced Registered Nurse practitioners, 30 Registered Nurses, 30 Nursing Assistants, 15 therapists	Saint Augustine, FL	2/1/2021	5/7/2021

VISN/ Agency	MA Type	Support Type	Description	Location	Start Date	End Date
V8	Vaccination Support	Vaccinations	Vaccines at state of FL-sponsored vaccination site known as a Point of Dispensing (POD)	Tampa, FL	3/1/2021	6/25/2021
V8	Other Hazards	Staffing Supplement	Staffing Support	Miami, FL	7/3/2021	7/10/2021
V8	Vaccination Support	Vaccinations	Veteran Services Organizations vaccination support	Tampa, FL	7/28/2021	9/3/2021
V9	Vaccination Support	Staffing Supplement	Staff support for state of TN POD	Knoxville, TN	4/15/2021	4/20/2021
V10	COVID Care	Bed Capacity	Providing beds as needed and available	Detroit, MI	4/18/2021	5/16/2021
V10	Vaccination Support	Staffing Supplement	Up to 15 personnel	Lansing, MI	4/23/2021	5/10/2021
V10	Vaccination Support	Vaccinations	Vaccination event support at American Legion	Independence, OH	7/8/2021	7/10/2021
V12	Vaccination Support	Vaccinations	Staffing Support for Vaccinations	Chicago, IL	3/1/2021	5/30/2021
V12	Vaccination Support	Vaccinations	Vaccination services staff support at state-sponsored POD vaccination site	Milwaukee, WI	3/12/2021	4/18/2021
V12	Vaccination Support	Vaccinations	Vaccination event support at American Legion	Springfield, IL	7/15/2021	7/17/2021
V16	COVID Care	Bed Capacity	7 intensive care unit beds and 3 med/surg beds	Jackson, MS	1/11/2021	2/9/2021
V16	Vaccination Support	Staffing Supplement	Vaccination services staff support at American Legion	Montgomery, AL	6/17/2021	6/18/2021
V16	Vaccination Support	Vaccinations	3 nurses and 2 pharmacy support staff	Lake Charles, LA	6/21/2021	7/21/2021
V16	Vaccination Support	Vaccinations	3 nurses and 2 pharmacy support staff	Lake Charles, LA	6/21/2021	7/15/2021
V16	Vaccination Support	Vaccinations	Staffing Support for Vaccinations	Springfield, MO	7/14/2021	8/13/2021
V16	Vaccination Support	Vaccinations	Vaccination Support	Natchez, MS	7/16/2021	8/15/2021
V17	Vaccination Support	Vaccinations	Vaccination Support	Multiple Cities in TX	2/1/2021	3/3/2021

VISN/ Agency	MA Type	Support Type	Description	Location	Start Date	End Date
V17	Other Hazards	Staffing Supplement	Dialysis Staff Support	San Antonio, TX	2/22/2021	3/18/2021
V19	Vaccination Support	Vaccinations	Staff support for Type 1 Community Vaccination Center at Ranch-Larimer County Complex	Loveland, CO	3/21/2021	3/29/2021
V19	Vaccination Support	Vaccinations	Staff support for Type 1 Community Vaccination Center at Ranch-Larimer County Complex	Loveland, CO	3/26/2021	4/20/2021
V19	Vaccination Support	Vaccinations	Staffing Support for Vaccinations	Loveland, CO	4/21/2021	5/24/2021
V21	Vaccination Support	Vaccinations	Staff support, including 1 clinician, 2 Registered Nurses, and 2 Licensed Practical Nurses. Up to 15 staff members for 1 8-hour shift per day	American Samoa	2/19/2021	5/21/2021
V21	Vaccination Support	Vaccinations	15 Vaccination Support Staff	Multiple Cities in NV	4/12/2021	5/13/2021
V22	Vaccination Support	Vaccinations	2 nurses and 1 Associate Emergency Manager	Tuba City RMC, AZ	4/5/2021	5/3/2021
OEM	COVID Care	Staffing Supplement	Liaison Officer support for Federal Emergency Response Agency (Regional Response Coordination Center (RRCC))	RRCC, WA	4/28/2021	6/1/2021
OEM	COVID Care	Staffing Supplement	Liaison Officer support for Federal Emergency Response Agency (RRCC)	RRCC, NJ	1/29/2021	5/31/2021
OEM	COVID Care	Subject Matter Expertise	Federal Emergency Response Agency (RRCC)	RRCC, TX	4/26/2021	6/30/2021
OEM	COVID Care	Staffing Supplement	Liaison Officer support for Federal Emergency Response Agency (RRCC)	RRCC, CA	5/1/2021	5/31/2021

VISN/ Agency	MA Type	Support Type	Description	Location	Start Date	End Date
OEM	Vaccination Support	Staffing Supplement	Liaison Officer support for Federal Emergency Response Agency (RRCC)	Philadelphia, PA	4/7/2021	5/27/2021
OEM	Vaccination Support	Vaccinations	Liaison Officer support for Federal Emergency Response Agency National Response Coordination Center	Washington, D.C.	1/25/2021	6/1/2021
OEM	Vaccination Support	Staffing Supplement	Liaison Officer support for Federal Emergency Response Agency (RRCC)	Harrisburg, PA	7/15/2021	7/18/2021
HHS/ ACF	Vaccination Support	Vaccinations	VHA vaccinate HHS Staff	Carrizo Springs, TX	3/5/2021	5/31/2021
HHS/IHS	COVID Care	Staffing Supplement	1 Nurse Manager, 13 Registered Nurses, 1 Associate Emergency Manager	Gallup, NM Indian Medical Center	3/10/2021	4/30/2021
DHS	Vaccination Support	Vaccinations	VHA vaccinating DHS Staff	Southwest border in TX, NM, CA	3/17/2021	9/30/2021
FDA	Vaccination Support	Vaccinations	VHA vaccinating Food and Drug Admin staff	Multiple VAMC locations nationwide	3/18/2021	12/31/2021
NARA	Vaccination Support	Vaccinations	VHA vaccinating NARA personnel	Multiple VAMC locations nationwide	3/30/2021	6/30/2021
AOUSC	Vaccination Support	Vaccinations	VHA Vaccinating U.S. Courts staff	Multiple VAMC locations nationwide	4/5/2021	9/30/2021
GSA	Vaccination Support	Vaccinations	VHA vaccinating GSA personnel	Multiple VAMC locations nationwide	4/12/2021	9/30/2021
HHS/IHS	COVID Care	Staffing Supplement	2 X-ray Technicians 1 Associate Emergency Manager	Whiteriver, AZ Service Unit	6/8/2021	7/6/2021
DLA	Vaccination Support	Vaccinations	Shipping vaccine to support U/S. Veterans	Philippines	6/23/2021	9/30/2021

VISN/ Agency	MA Type	Support Type	Description	Location	Start Date	End Date
DLA	Vaccination Support	Vaccinations	Shipping vaccine to support U.S. Veterans	Philippines	6/23/2021	9/30/2021
<p>Source: VHA, OEM, FEMA Mission Assignments, 10/13/2021; VHA OEM, "Interagency Agreements," 10/19/2021; VA, response to email, 10/25/2021; VA, response to email, 10/26/2021.</p> <p>Note: This table includes only FEMA Mission Assignments and IAAs that began in 2021. FEMA Mission Assignments located at VAMCs were excluded unless they related to providing beds. When relevant, titles have been adjusted for consistency. Other Fourth Mission activities are not included, such as support to vaccinate individuals under the SAVE LIVES Act, non-staff support to State Veterans Homes under the CARES Act, vaccination support to other Federal agencies through IAAs and humanitarian support provided by medical facilities at the discretion of facility directors.</p> <p>ACF: Administration for Children and Families AOUSC: Administrative Office of the United States Courts DHS: Department of Homeland Security DLA: Defense Logistics Agency FDA Food and Drug Administration GSA: General Services Administration HHS: Health and Human Services IHS: Indian Health Services NARA: National Archives and Records Administration</p>						

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ACRONYMS AND ABBREVIATIONS

Acronym	Expansion
ATLAS	Accessing Telehealth through Local Area Stations
AOUSC	U.S. Courts Administrative Office
C5 Program	COVID-19 Critical Care Cooperative Community Program
CAIM	Customer Assistance Inventory Module
CARES Act	Coronavirus Aid, Relief, and Economic Security Act
CCC	Clinical Contact Centers
CDC	Centers for Disease Control and Prevention
CDDC	Consult Digital Divide Consult
CDT	Clinical Deployment Team
CDW	corporate data warehouse
CLC	Community Living Center
CLIA	Clinical Laboratory Improvement Amendments
CNA	Certified Nursing Assistant
CORC	Clinical Outcomes Research Collaboratory
COVID-19	Coronavirus Disease 2019
CPI	continuous process improvement
CPRS	Computerized Patient Record System
CRM	Customer Relationship Management
CTT	Clinical Team Training
CVT	Clinical Video Telehealth
DEMPS	Disaster Emergency Medical Personnel System
DHS	Department of Homeland Security
DLA	Defense Logistics Agency
DMLSS	Defense Medical Logistics Standard Support System
DPAS	Defense Property Accountability System
DoD	Department of Defense
DSS	Decision Support System
DUSH	Deputy Under Secretary for Health
EIC	Executive in Charge

Acronym	Expansion
ELT	Executive Leadership Team
EMCC	Emergency Management Coordination Cell
EOC	Emergency Operation Center
ESF #8	Emergency Support Function #8
EUA	Emergency Use Authorization
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FOC	Full Operating Capability
FORTS	Fold-out rigid temporary shelters
FY	Fiscal Year
GAO	Government Accountability Office
GEC	Office of Geriatrics and Extended Care
GSA	General Services Administration
HCP	healthcare personnel
HCS	health care system
HERL	Human Engineering Research Laboratory
HHS	Department of Health and Human Services
HMR SOG	Healthcare and Medical Resourcing Strategic Operations Group
HOC	Health Operations Center
HR	human resources
HRO	high reliability organization
ICU	intensive care unit
IE	IntegratedEthics®
IHS	Indian Health Service
IRBNet	Institutional Review Board website
JIT	just-in-time
LGBTQ+	lesbian, gay, bisexual, transgender and related identities
LMS	Lethal Means Safety
LPN	Licensed Practical Nurse
LTC	long-term care
LVN	Licensed Vocational Nurse

Acronym	Expansion
MH RRTP	Mental Health Residential Rehabilitation Treatment Program
mRNA	messenger ribonucleic acid
MSA	Medical Support Assistant
NARA	National Archives and Records Administration
NCEHC	National Center for Ethics in Health Care
NCP	National Center for Health Promotion and Disease Prevention
NCPS	National Center for Patient Safety
NCRT	National Contingency Response Tool
NFS	Nutrition Food Service
NIH	National Institutes of Health
NHSN	National Healthcare Safety Network
NRCC	National Response Coordinating Center
NST	National Surveillance Tool
NYC	New York City
OCC	Office of Connected Care
OEM	Office of Emergency Management
OHE	Office of Health Equity
OHIL	Office of Health Care Innovation and Learning
OMHSP	Office of Mental Health and Suicide Prevention
ORD	Office of Research and Development
ORH	Office of Rural Health
ORPP&E	Office of Research Protections, Policy and Education
OSH	Office of Occupational Safety and Health
OSRI	Office of Systems Redesign and Improvement
PA	physician assistant
PCR	polymerase chain reaction
PGHD	patient generated health data
POCs	people of color
PPE	personal protective equipment
PREVENTS	President's Roadmap to Empower Veterans and End a National Tragedy of Suicide
PTSD	Post-Traumatic Stress Disorder

Acronym	Expansion
REACH VET	Recovery Engagement and Coordination for Health–Veterans Enhanced Treatment
REBOOT	Reducing Employee Burnout and Optimizing Organizational Thriving
RN	Registered Nurse
RRC	Regional Readiness Center
RRCC	Regional Response Coordination Center
SARS/COV2	Severe Acute Respiratory Syndrome / Coronavirus 2
SAVE LIVES Act	Strengthening and Amplifying Vaccination Efforts to Locally Immunize All Veterans and Every Spouse Act
SCI/D	spinal cord injuries and disorders
SDR	Shared Data Resource
SeqFORCE	Sequencing for Research Clinical and Epidemiology
SIG	SARS-CoV-2 Interagency Group
SME	subject matter expert
SNF	Skilled Nursing Facilities
SPED	Safety Planning in Emergency Departments
SPPRITE	Suicide Prevention Population Risk Identification and Tracking for Exigencies
SVH	State Veterans Home
TNC	Travel Nurse Corps
UV	ultraviolet
VA	Department of Veterans Affairs
VAMC	VA Medical Center
VAIRRS	VA Innovation and Research Review System
VA SHIELD	VA Science and Health Initiative to Combat Infectious and Emerging Life-Threatening Diseases
VA SeqCURE	VA Sequencing Collaborations United for Research and Epidemiology
VCC	Veteran Care Coordinator
VCL	Veterans Crisis Line
VHA	Veterans Health Administration
VHACO	Veterans Health Administration Central Office
VINCI	VA Informatics and Computing Infrastructure
VISN	Veterans Integrated Service Network
VSO	Veteran Service Organization

Acronym	Expansion
VTM	viral transport media
VVC	VA Video Connect
WHO	World Health Organization

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